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ART. I.—*Two Lectures on Water.* Delivered to his Class, in Lebanon, Tennessee, by F. H. Gordon, M. D.

During our course, reference has been frequently made to water as a remedial agent, and it is so important an agent in the healing art, as to induce me to call your special attention to its consideration. Its use is coeval with medicine, and its modes of application numerous. Much more of its virtues is known among practitioners, than you will find in books—even enough, were it collected, to put to shame that humbug, based on one truth, called hydropathy. Your time will, therefere, be well spent in studying this important remedy. Water, as a hygienic drink, and as a solvent of other remedies, you find well discussed in your text books. Pharmacy could not do without it; in keeping the proximate elements of the blood in a state of solution, it is of paramount importance; but its

other properties and uses require a more careful consideration from us, because they are more important to the practitioner.

As an *internal* remedy, its properties *vary according to its temperature.* At all temperatures which can be tolerated by the stomach, it increases the pulmonary, cutaneous, and renal secretions. When taken into the stomach, it soon finds its way into the circulation, through the radicals of the gastric veins, and is eliminated by the skin, kidneys and lungs. But if water be swallowed hot, say at ninety-eight degrees Fahrenheit, or upward, it stimulates and accelerates the circulation, and acts as a powerful diaphoretic. The perspiration will be in proportion to the elevation of temperature, and the amount swallowed in a given time. Cold (thirty-two to sixty degrees Fahrenheit) water swallowed, acts as a diuretic and antiphlogistic or sedative to an inflamed stomach. But if drunk tepid, (sixty to eighty degrees Fahrenheit) it is emetic. Thus you may cause a patient to urinate, sweat, or vomit, or to cease vomiting, according to the temperature of the water he drinks. A small amount of very warm or very cold water will generally relieve nausea; but if drunk largely, then it is emetic, diuretic, or diaphoretic, according to its temperature, as just stated.—Bearing these facts in mind, you will be able to explain why a thousand and one remedies have popularity for these virtues. I allude not alone to the opinions of the populace, but to those of the profession also.

Many remedies of high repute, would doubtless cease to be valued, were they administered without water. In this respect, our materia medica would be much impoverished. The physician orders a decoction of some foreign or indigenous plant; the urine flows freely, and he therefore sees with his own eyes that it is an excellent diuretic. He thus knows from experience that the books are correct. But let him order his remedy without wa-

ter, and direct his patient to abstain from all drinks; then experience will, in regard to most of the reputable diuretics, teach him differently. Similar remarks are true of a very long list of diaphoretics. Numerous teas, infusions and decoctions, owe their reputation exclusively to the warm water swallowed during the administration of these supposed sudorifics. Let these supposed remedies be taken without water, and you will find a large majority of them incapable of exciting perspiration. Very warm water, freely swallowed, so powerfully promotes perspiration, that, in most cases, it needs no medication.

As an *external* remedy, water is still more valuable.—And the fact that the two extremes of temperature, denominated cold and warm, give it different virtues, makes it necessary to treat of its application, first, as cold water, and second, as warm water.

Cold water has been variously applied to the surface of the body, as by immersion, dash, stream, sponging, or wet linen and bladders of ice. Its effects vary with those modes of application in intensity, but not in kind.

1st. The first and most obvious effect of cold water applied to the surface, is reduction of its temperature, by the abstraction of caloric from the point of application. As a consequence, contraction of the part, and sluggish circulation soon result.

2d. When the vital phenomena of the part have been depressed for a time, reaction takes place; that is, the vital forces are roused, and all living phenomena increase.

3d. *Tonicity* is imparted directly to the point of application, and indirectly to the whole system.

But these effects vary greatly, according to the force of the application; and the force varies with the different modes of using it. Of course, the practitioner must let the object to be accomplished determine what mode of application should be adopted. When there is local inflammation to be reduced, by diminishing the flow of

blood to the suffering point, the most appropriate modes of applying cold water are by wet linens, the sponge, bladders of ice, and the stream. The application must be moderate, gradual and long continued; but when the object is to impart tonicity or vigorous reaction, the water must be applied with speed and force enough to shock and rouse the latent energies; and here the dash and shower-bath are appropriate.

To apply these principles in practice; suppose you have a case of cerebritis, pneumonitis, or gastritis. Now, if you plunge the patient in cold water, or dash it on him, it is evident that you will cause violent reaction in an organ already excited too much, and thus aggravate the inflammation. But if you pour a gentle stream on the head, or apply bladders of ice to it, or sponge the chest or epigastrium, and keep up this practice, so as to reduce the augmented heat for a long time, it is plain, that you reduce the inflammation of the part, and lessen the tendency to reaction, in proportion to the time of the application.

On the contrary, suppose you have an emaciated and debilitated patient, suffering of some *functional* disease of the prima via, liver, spleen, bladder, or uterus; and suppose you protractedly sponge or pour cold water over the diseased organ. Your patient, for want of vital power, will ultimately collapse and die; or run into a chill, and, after a slow reaction, have high fever, with aggravation of the local lesion. But if you plunge the patient, or dash the coldest water forcibly on any part of the body, and let the skin be speedily wiped dry and wrapped up warmly, the dormant energies are roused, equilibrium of the circulation is produced, with vigorous reaction, and tonicity is imparted to the whole system.

Here may be a seeming inconsistency. We apply cold water slowly and protractedly, to subdue acute inflammation; but if the lesion be sub-acute, and especially if it be merely functional, then the dash is the remedy. The

following physiological facts, will manifest the reason of the procedure.

1. The more vitality there is in the patient, or in the diseased part, the more speedy and vigorous will be the reaction from the use of cold applications.

2. The colder the water, and the more sudden and forcible the application, the more prompt and vigorous will be the reaction. According to these two principles, the promptitude and vigor of reaction, are in direct proportion to the amount of vitality in the patient, and the celerity with which heat is abstracted by the water.

3. A shock rouses every organ of the body, and gives increased action to the circulation and nervous fluid.

4. If there be organic lesion, or violent inflammation, a shock does violence to the diseased part, by forcing it to over action.

5. If by cold water, the vital movements be reduced below the natural standard, the reaction will exalt the vital phenomena as much above, as they had been depressed below the natural level.

It appears from these principles, that in cases of chronic disease with prostration, the slow application of cold water, would not be tolerated by the system of the patient; because the blood and vital fluid are both impoverished or diminished, and are therefore, incapable of keeping up the equilibrium of circulation, calorification and vitalization, in opposition to the continued abstraction of heat by cold water. On the contrary, in acute inflammation, where the vital fluid and blood are abundant, there is but little danger of depressing the vital movements too low, if prudence be observed. Some depression in the diseased organ is the desideratum, and there is a continual strong tendency to reaction. And where there is serious organic disease, cold water is inadmissible.

From the foregoing considerations, the application of cold water in its different modes, to the various cases,

may be easily determined. The cases requiring the cold stream, sponging, or bladders of ice water are: fever with general heat of surface, arachnitis, gastritis, enteritis, strangulated hernia, epistaxis, and gonorrhea, &c. And the cold dash is applicable to uterine hemorrhage with prostration, narcotism, syncope, catarrh, dyspepsia, amenorrhea, chronic diarrhea, chlorosis, and all chronic diseases with general debility, provided there be no serious organic lesion.

Your attention will now be called to the external application of *warm water*. The modes of its application to the surface of the body are immersion, vapor bath, poultices, fomentation, and a stream. Warm water is still the same agent, and its *effects are the same in kind*, whether applied by one, or any of these modes. We have seen, that when swallowed it is a stimulant, emetic, diaphoretic, and in common with cold water, it is diuretic; but when applied to the surface it displays other properties.

1. It softens and relaxes the skin and muscles.

2. It promotes cutaneous perspiration and general absorption.

3. It acts as a sedative to the nervous system, and thus quiets or subdues irritation.

4. It diminishes arterial action and equalizes the circulation, and thus removes local congestion and inflammation.

Warm water is still the same agent, having these effects, whatever may be its mode of application. But its potency is regulated by three circumstances, viz.: the *length of time*, the *constancy* and *force* of its application. The longer the application is continued, the greater its force, and the more constant, the more powerful will be its effects. The value of each mode is easily determined by these conditions.

The vapor bath, was at one time highly estimated in this country. It is conducted by generating steam in

some vessel, and conducting it around the patient under the bed clothes. This mode of applying warm water has now but few advocates, owing no doubt to one peculiarity, that is, by surrounding the surface with an atmosphere highly charged with moisture, it impedes, if it does not arrest all cutaneous transpiration. The interferance with this important function diminishes its value, if it does not hinder the other legitimate effects of water.

Fomentation is a mode of applying warm water, by dipping flannal cloths in it, and applying them to the surface. It is an old remedy, and is much used at this day. But it is the least efficient of all the modes; because there is but little force in the application, and the cloths cool so rapidly as to require frequent changing. Yet from its convenience, it answers a valuable purpose in many instances, where a more powerful effect is not demanded.

The poultice is a much more potent antiphlogistic, and in subduing local inflammation it is deservedly popular. Yet there are frequent failures in securing the good effects of this remedy, because of the injudicious manner of its application. The poultice, to do great service, must be *large, light, and frequently changed.* It must be large, because a small poultice cools too speedily; it must be light, because otherwise its weight would oppress the patient; and it must be frequently changed, to keep up a temperature as nearly uniform as possible. To accomplish all of these objects, wheat bran is the best material for a poultice, and should be managed in the following manner: Suppose you have a case of peritonitis, put ten quarts of wheat bran in an iron pot; gradually add water, and stir till the whole mass is *merely moist* or damp throughout. Now heat it and stir occasionally till it is quite hot. Put half of this in a bag not less than eighteen inches square, (a pillow case is a suitable bag for this purpose,) spread the bran out, and apply the

poultice, as hot as the patient can bear it, to the surface of the abdomen. At the end of twenty minutes have the remainder of the bran ready in another bag, and apply it the instant the former poultice is removed. Return the cool bran of the former poultice to the pot, to be ready to be reapplied at the end of twenty minutes more; and thus continue to change the poultices every twenty minutes, so as to keep up a temperature as nearly uniform as possible. Poulticing in this way for four or five hours will do more in subduing inflammation than a little and badly managed one could in a week. In fact, a little poultice is the mere semblance of a remedy; but when all of the conditions here named are observed, the poultice is powerful. I have named wheat bran as the best material; but poultices are made of various substances, many of which are supposed to possess some peculiar virtues, apart from the water they contain. But I suppose that the remedial agency of all or nearly all poultices is due to the water alone, which they contain. The tansy, hot ashes, cedar leaves, yarrow, corn mush, and wheat bran are only the means of absorbing warm water, and holding it in contact with the surface. And we frequently see poultices medicated with oak ooze, vinegar, and other means, under the belief that these means have some agency in reducing the inflammation. Such medications of course do no injury, and I never object to them, but gratify the friends of the patient by allowing any such medication, provided the poultices are made large and hot, and are changed frequently; for my reliance is on the water in the poultice.

Bathing, by immersing the patient partially or generally in warm water, is a remedy of great power in equalising the circulation, and promoting perspiration. But when the object is to subdue local inflammation, this remedy is not appropriate it acts so powerfully upon the nervous system as not to be tolerated by most patients, more than

from fifteen to thirty minutes. This is too short a time for any material reduction of the inflammatory action. The powerful constitutional impression of warm bathing is owing to the great extent of surface acted on by the water.

The stream is the most valuable form of applying warm water *for the cure of local inflammation.* I have been familiar with it for years. It had been used by surgeons to relax the muscles in reducing luxations; but I am not aware of its having been employed for the reduction of local inflammation before I introduced it into the practice. For this latter purpose I am acquainted with no remedy which can equal it in value. I do not wish to overrate it or to appear to exaggerate its powers, for this would prevent a proper estimate from being placed upon it. Yet, to those who have not tried the remedy, the whole truth will look like exaggeration. Cups, leeches, blisters, and the lancet, do not equal it. The stream is a mode of applying warm water which complies with all of the conditions requisite to make it efficacious. It is *more constant*, may be *longer continued*, and applied with *more force* than any other application of water. The stream may be conducted almost without variation of temperature or force for hours, and, falling *only upon the suffering point*, it does not prostrate the patient like the bath, and hence may be continued long enough to greatly subdue the local inflammation before there is much depression of the vital powers. The *force* of the stream is an item of peculiar importance, because it is incomparably greater than that of any other mode of using warm water. It is a well known fact, that *fluids in motion* manifest their peculiar powers in a much higher degree than when at rest. The sultry air of a summer's day, which almost melts us by its quiescence, may, when put in motion, make hail, and chill the body. Electricity, which gently pervades our bodies at all times and stimulates all of the vital

movements without misrule, if disturbed in its equilibrium and transmitted through the organs, with its incalculable velocity, will produce instant disorganization and death. Caloric, which pervades all of the tissues, and without which the vital functions could not be performed for one moment, does no injury while latent or in gentle motion; but when a large amount passes in or out of any point of the surface in a short time, destruction is the instant result. In like manner, water at rest in contact with the body will abstract or impart caloric according to its temperature, in so gradual a manner as to cause no very striking results; but when a swift current of water strikes the surface, its effects are manifestly in proportion to its velocity. Hence the stream of warm water as far surpasses in virtue the vapor bath and fomenting cloths, as the gentle breeze which wafts a feather is transcended by the tornado which uproots the sturdy oak.

But this, like all other remedies, may lose more than half of its virtues by being badly applied; it is, therefore, important that some special directions be given for its employment. Your object is to cause a *constant stream to fall with force upon the suffering point.* You may accomplish all of these objects by pouring with two pitchers, alternately, so as never to stop the stream longer than is necessary to exchange an empty pitcher for a full one. Or two coffee-pots or tea-pots will answer the same purpose. But the syphon is far the best instrument. A leaden tube from two and a half to three feet long, or a bent tin tube, or two joints of cane mitred together, secured with twine and made air-tight, will answer the purpose. The outer leg of the syphon must be from two to four inches longer than the one placed in the water. The diameter of the instrument must be from one-eighth to three-eighths of an inch, according as the patient is prostrated or vigorous. To understand the application of this instrument, particularly on the trunk, suppose you

wish to apply the stream in a case of peritonitis. Take everything from the bedstead down to the cords; fold the bed-clothes and place them on the cords so as to make two beds of them, of equal height, with an interval of two inches between them, about where the umbilicus of the patient will be when he is placed upon them. Now place the patient, supine, upon the beds, with his umbilicus over the interval and a pillow under his head. Two blankets must cover the patient above and below the umbilicus, so as to leave a space of four inches between them. Pass two silk handkerchiefs around the body of the patient, one just above and the other just below the umbilicus, with their ends hanging through the cords to conduct the water. Have the clothes of the patient well pulled up, so that they may not get wet. A tub is placed under the bed to catch the water. A plank rests on the head and foot board, on which a bucket of warm water is placed. One end of the syphon is put into the bucket and made steady by a weight tied to it, and the other end presents over the umbilicus of the patient. By applying the mouth to the outer end and sucking, the stream begins, and ought to be adjusted to make it fall upon the most tender point. It should fall five or six inches, from the end of the syphon to the skin of the patient, or as far as it can without making a spray. The water should be tempered in a separate vessel and poured in the one which feeds the syphon, so as to keep it full and cause the stream to be uniform in temperature and force. The stream should fall constantly in the same place, because its effects will thus be greater than if moved frequently. The length of time consumed in using the stream must vary from one to five hours, according to the strength of the patient. Mustard plasters on the hands and feet will enable him to stand it much longer than without them. The rule is to continue the stream till the patient's pulse becomes small and frequent; and the higher the tempera-

ture of the water the longer it can be tolerated without faltering of the pulse. What should be the temperature of the water? At the beginning it should be about ninety degrees, Fahrenheit, and gradually increased till it reddens the skin slightly; this will be between one hundred and one hundred and fifteen degrees, according to the excitability of the patient. It is usual for patients to enjoy the stream finely for the first hour or two, but afterwards they become restless and insist on moving. They must be carefully instructed never to move themselves, for their clothes and bed would get wet. By rolling up a towel and placing it under one shoulder and another under the hip of the same side, the patient will be made to rest for a while, and when he again becomes tired place the towels under the opposite hip and shoulder. In this way you may make him contented till the bathing is ended, and all means should be employed for this purpose, for the effects of the stream increases almost in fourfold proportion with the time. In fact the last hour appears to accumulate as much good as the three preceding ones.

The first effect of the stream is on the point where it falls, subduing the inflammation for a small space around. The reduction gradually extends to more remote parts, as may be proven by gentle pressure being gradually tolerated progressively outward from where the stream falls. And, in the case of peritonitis before us, the legs can be completely extended without pain.

The second effect is upon the muscular, circulatory, and nervous systems. General relaxation ensues; the pulse loses its hardness, becomes full and elastic, and, ultimately, is small and frequent, but retains its softness.—At first, the patient is soothed; all pains cease and he falls to sleep, but afterwards awakes and becomes restless and weary of his position. These constitutional effects are so gradual, that you may almost, and sometimes entirely, subdue the local inflammation, before the patient

becomes so much depressed as to require the discontinuance of the remedy. This is the excellency of the stream —that it acts with power enough *upon the point of disease* to subdue the inflammation in part or entirely, with but temporary depression of the general energies. The general febrile symptoms moderate and disappear while the stream flows, with as much certainty as can be expected from the lancet, and yet without ultimate loss of strength. It thus often does away the necessity of bleeding, and may be used in cases of great prostration, where no one would think of using the lancet. To a considerable extent, the warm stream supercedes the painful practice of blistering, relieving the disease without it; and where it does not subdue the local lesion entirely, it always diminishes it greatly, if continued long enough, and being on the decline, the blister plaster may be at once applied, with full prospect of good effects. And to speak in general terms, in all cases of local inflammation, the patient gets well sooner by the aid of the stream, than he could possibly without it, and suffers incomparably less during his illness. Unlike bleeding, purging, blistering, and all other powerful means of subduing inflammation, the warm stream may be repeated as often as may be needed. After all that has been said, need it be urged that we have no remedy so potent in reducing local inflammation? Let it be well tried, in a variety of cases, and you will be astonished at its effects. To see so pleasant a remedy relieve the most intense agony, remove all soreness, subdue the fever, and restore the pulse almost to its normal characteristics, in a few hours, almost passes belief. And though you will not be fortunate enough to see this picture universally, yet you may often be gratified with the sight.

You ask, in what cases is the stream applicable? I reply, *in all cases where there is local inflammation*, no matter what may be the name of the disease, whether acute

or chronic, the stream will do good, and the nearer it can be made to fall on the point of the most intense suffering the better. It is true, that its effect will be more striking in acute disease, but it will be serviceable in chronic also. In mild or slight cases, I do not always take the trouble of applying the stream, but whenever I find severe suffering, or the life of the patient in jeopardy, I do not hesitate to direct the stream upon the suffering point.

I have watched this remedy in its extensive application, for many years, and could adduce from memory and my notes, a very long list of cases, tending to show its value; but must be content to bring forward comparatively few of them taken promiscuously from the mass in my possession, to which I ask your patient attention.

1. *Luxation of the Shoulder.*—Eli Harris, of this county, æt. 40, had his right shoulder dislocated, forward under the clavicle, on the 12th September last. A few hours afterwards, a neighboring practitioner saw him, and for four or five hours employed the strength of several strong men, in fruitless efforts to reduce it. On the 13th, about twenty-six hours after the accident, I found the patient discouraged, and the parts very sore and swollen from the previous efforts at reduction. I ordered a stream of warm water, about ninety-six degrees Fahrenheit, to be poured upon the inflamed joint for two hours, and with the aid of one man reduced the luxation with but little pain to the patient.

2. *Chronic Hepatitis with Gastrodynia.*—Mrs. Springs, of this county, was in a state of extreme prostration, in 1846. For four years, continued medical aid had done nothing towards a cure, and had afforded but occasional relief of her extreme suffering. There was general tenderness of the whole abdomen; the liver was much enlarged, extending below the umbilicus, and quite hard.—I directed the bowels to be kept regular, with pills of aloes, rhubarb and soap; diet, animal food exclusively,

and a stream of warm water to be poured four hours daily over the region of the liver. On the second day, the liver was found soft for two inches in diameter where the stream had fallen. The stream was made to fall on a new place every day, and continued to soften the liver where it fell, till at the end of three weeks, the whole organ was reduced to its normal state, and the gastrodynia had disappeared. No mercury was used to act on the liver, and the recovery of the patient, in some four months, was due almost exclusively to the stream.

3. *Ptyalism from Mercury.*—In 1846, Miss Miner, of Smith county, was severely salivated. Could not rest; she had several ulcers; the pain, heat, and swelling were very great. The warm stream was directed on the cheek for two hours daily, and a mouth wash of borate sodæ used. Each application of the stream subdued the fever, and gave entire comfort. The mouth was well in a few days.

4. *Gastritis Acute.*—I was called to George Clope, of Wilson county, September 18, 1844. Had autumnal fever. Tongue red and dry; pulse small, hard, and one hundred per minute; frequent vomiting, and great tenderness of the epigastrium. Bled twenty ounces, with some relief. Gave minute doses of calomel and Dover's powder, and directed wheat bran poultices to the whole abdomen.

20th. Patient decidedly worse. Poured the warm stream upon the epigastrium for four hours, and directed two grains quinine every two hours.

22d. So much improved that further treatment was unnecessary, and the patient was up in a few days.

5. *Enteritis Acute.*—John Davidson, of Smith county, in 1846, had miasmatic fever, with enteritis, involving the peritoneum. Could not bear the slightest pressure. The stream of warm water, directed upon the umbilicus four hours, and repeated the day after, relieved all distressing symptoms, and a blister completed the cure.

6. *Purulent Ophthalmia.*—In 1845 the Egyptian ophthalmia was endemic in this region. I. Kilzer had violent pain in both eyes, balls swollen, conjunctiva looked like clots of blood, complete intolerance of light. Bled him copiously, gave calomel and directed the warm stream to be poured alternately upon the eyes till both should be comfortable. The next day no improvement, suspected the stream had been badly conducted, and poured it myself one hour upon each eye. Left patient comfortable. The family repeated the stream twice more on the two following days, and he was well in a week.

7. *Cynanche Maligna.*—Sept., 1849, Tabitha Moore, of Smith county, æt. three years, had cynanche, suffocating respiration, tonsils swollen, and of a dark purple color, pulse one hundred and fifty and small. At 12 M., applied a solution of nit. silver, fifteen grs. to ℥j. of water, to the tonsils and fauces, and gave tart. emetic freely. No nausea and no improvement. Gave 10 gr. blue mass, and reddened the throat with turpentine liniment. Still no relief. Gave 6 grs. calomel with 1 gr. tart. emetic, and 2 gr. ipecac; no nausea; and the child grew worse in all respects. About 9 P. M., had Dr. Thompson called in consultation, and told the family the child would die within fifteen hours, but determined to use the warm stream. It was poured on the throat two hours. The child breathed much better; broken doses of ipecac., were then repeated frequently, and nausea and vomiting were easily produced, followed by rapid improvement. Ipecac discontinued in three hours after its commencement; the child slept till daylight, and was out of danger.

8. *Pneumonia.*—I. Bradford, of Smith county, aged forty-five, was attacked with pneumonia 2d of April, 1846. Saw him on the 5th: dyspnea, constant dry cough, pulse one hundred and ten; two thirds of left lung impervious to air, and flat sound on percussion. Directed tartar emetic, repeated so as not to excite vomiting, pa-

tient to be bled, *ad deliquium*, at 2 P. M., and the stream to be poured to the left of sternum during alternate four hours, till my return next day. April 6, twenty-four hours after first visit. Patient better, expectorates some rusty sputa, coughs less, breathes better, pulse ninety-five, some crepitation in left lung. Has taken tartar regularly, and the stream has been poured twelve hours out of the twenty-four; was not bled, because the neighborhood bleeder thought he had not fever enough. Directions same as yesterday, except that the stream is to be poured eight hours out of the next twenty four. April 7.—Patient looks bright, much improved, full expectoration of brick-dust sputa; coughs but little and without pain, skin moist, pulse eighty-seven, sleeps well, left lung not so dull, some crepitus throughout the inflamed lung. The tartar and bathing had been used as directed, but bleeding had been again omitted for the same reasons as before. A blister was ordered over left lung, tartar water continued one day longer and then left off. Patient recovered in a few days.

9. *Nephritis.*—Miss L. Tyree, æt. eighteen, was attacked October 9, 1844. Saw her on the 11th. Had constant fever, headache, some pain in left kidney, extending into the pelvis, frequent scanty micturition, bowels constipated. The abdominal aorta pulsated inordinately down to the emulgents, thence the strong pulsation was traced out to the left kidney, which itself pulsated violently in unison with the heart. The stream was poured four hours upon the region of the kidney, which relieved the pain and subdued the fever. Ten grs. calomel, and 5 grs. Dover's powder were given, and mild diuretics directed thrice a day. On the 16th, patient was well. This patient had two other attacks of the same sort during 1845, which were relieved by the same treatment.

10. *Puerperal Peritonitis.*—Mrs. Dowty, of Smith coun-

ty, aged forty, a delicate woman, was delivered of a child 1st May, 1847. Saw her the 5th, extremely ill, pulse one hundred and forty, small and corded, thirst, nausea, jactitation, delirium; abdomen swollen, quite tender and painful, legs flexed, lochia suspended, diarrhea. Directed 10 grs. calomel, and 1½ grs. morphia to be divided into three portions, one to be given every three hours. Poured the stream on the hypogastrium, for four hours, while mustard was used on the hands and feet, and directed the same to be repeated the next day; wheat bran poultice over the abdomen in the interval. 7th.—Patient much relieved, has had two consistent bilious dejections, abdominal tenderness nearly removed, mind clear, lochia returned, pulse one hundred and ten. Directed 3 grs. quinine every three hours, and ½ gr. morphia at bedtime. 9th.—Improving, quinine continued, poultice of wheat bran to the abdomen. 11th.—Sits up a little, appetite good, directed aloetic pills at bed time, to be checked with Dover's powder and acetate of lead, if the purgation should be too free. 13th.—Cured.

11. *Cystitis.*—Mrs. M., of Smith county, October, 1839, had acute inflammation of the urinary bladder, frequent micturition with burning pain in the urethra, and spasm of the bladder, whenever urine was discharged; tenderness of the hypogastrium, pulse frequent and small, profuse perspiration from pain. The lancet and hip bathing were used to some advantage, but the symptoms returned with violence. The warm stream was poured just above the pubis for five hours, with perfect relief of all pain. Mild diuretics and spare diet completed the cure without further suffering of consequence.

12. *Paraphymosis.*—A son of P. Smith, of Wilson county, æt. five years, was seen October 9th, 1846. The part of the prepuce forming the ligature completely buried, the glans swollen to one and a quarter inches in diameter and dark colored; micturition impossible. The

warm stream poured on the swollen glans, for one and a half hours, made reduction easy, by compression between the palms of the hands.

13. *Orchitis.*—Ned, a negro man of J. Bradford's, æt. forty-five, had orchitis, July 1st, 1844, which yielded to ordinary treatment. August 20th, visited his wife five miles distant. Returned home with swollen and painful testicle. Was neglected, because of his imprudence, till 25th, when I found him in great torture, pulse one hundred and forty and irregular, clammy perspiration, extremities cold, the pain in the testicle extended to the loins. Directed 12 grs. calomel and 6 grs. Dover's powder; the warm stream to be poured on the testicle for six hours. After the use of the stream the patient slept soundly. 26th.—Comfortable; testicle a little softened, pulse one hundred, calomel had operated well. Directed strong iodine ointment to be freely rubbed daily on the testicle, and a suspensory bandage, recumbency, bowels to be kept regular with aloetic pills. Patient recovered in three weeks, but the epedidymis suppurated and was lanced.

14. *Croup.*—A daughter of J. Mitchell, æt. two years, was attacked 1st April, 1846, in the evening, got better before day; was taken very ill the evening of the 2d. Saw her at 9 P. M. Croaking cough, great distress in breathing. Gave tart. emetic and ipecac in broken doses, repeated often. No nausea. Reddened the throat with turpentine liniment, and immersed the child for half an hour up to the chin in warm water; gave 10 grs. calomel and 5 grs. ipecac. The child grew worse. After trying these, and other means, in vain for the whole night, the case appeared to be hopeless. About 9 A. M., on the 3d, directed the stream of warm water on the larynx for three hours, mean time gave ipecac every ten or fifteen minutes; the child vomited several times while un-

der the influence of the stream, and was easily kept sick for several hours afterwards. Recovery complete on the 4th.

15. *Inflamed Mammary Gland.*—1843, Mrs. A. Garret, of Smith county, æt. forty-one, had great swelling, pain and heat of the right breast. Directed the stream of warm water to be poured for three hours on the tumor, and spts. mindereri to be taken, at intervals, for five hours so as to keep up constant nausea. The symptoms abated, and the patient recovered without further suffering.

16. *Torticollis.*—In 1846, I. Moore, of Smith county, slept near a window, from which a cold current of air blew on him. I found his head drawn down to the right shoulder; pain severe, when moved. The stream was directed on the right sterno-mastoid muscle for five hours. Patient could move his head normally, and was cured.

17. *Chronic Enteritis, with Induration.*—July 30, 1846, saw E. Atwood, of Smith county, æt. about 30. In the forepart of June, while overheated in the harvest field, had indulged freely in drinking very cold water. Was soon attacked with gastro-enteritis. Was confined to bed, under the regular treatment of a neighboring practitioner up to the 30th of July, when he became my patient. I found his tongue very red; bowels constipated; whole abdomen hard, and tender on pressure; whenever he was raised up, he complained of a heavy dragging weight of the bowels, as if they would tear, and the patient became sick and faint; he cannot lie on either side. Directed half a teaspoonful of powdered cubebs, nutmeg or ginger at each meal, carbonate and sulphate of magnesia, in equal portions, to be taken four times daily, in such quantities as would move the bowels gently; the warm stream to be poured four hours daily, near the umbilicus, where the bowels felt the hardest. In ten days the bowels became somewhat soft at this point, and blister plasters, of the size of a dollar, were made to mi-

grate around the umbilicus, so as continually to draw a fresh blister. Meantime the stream was directed upon other parts of the abdomen, every third or fourth day, for several weeks. Patient to take sarsaparilla bitters. He slowly recovered, and was well about the 30th of November.

18. *Simple Metritis.*—This disease was endemic here, in the year 1844. I treated more than fifty cases; they were generally attended with uterine hemorrhage. The warm stream above the pubis, and warm water thrown up the vagina with a large syringe or syphon, were much used, and always with benefit, and sometimes prompt relief.

19. *Hypertrophy of the Uterus, with Procidentia.*—Mrs. O., of this county, æt. 41, had suffered from dysmenorrhea for several years, sometimes it amounted to menorrhagia, or even flooding. She had been under a judicious practitioner for two or three years, with occasional benefit. In 1846, I found her with globus, palpitations, cold feet, intermitting pulse, leucorrhea and amenorrhea; the womb hard to the touch and painful, about three inches in its transverse diameter, and resting with its mouth upon the perineum, causing dragging weight in the pelvis, pain in the loins, and numbness in the lower limbs. Directed aloetic pills to regulate the bowels, quinine every morning, a teaspoonful of pulverized cubebs before each meal; warm water to be *abundantly* thrown up the vagina daily, with a large self-operating syringe. In two months the patient was better. Directed the stream to be conducted up to the womb, with a syphon, for two hours every third day. This remedy was used but twice, and with so much benefit, that I saw my patient, soon after, at a camp meeting, five miles from home. The syphon was irregularly used for a month afterwards. Menstruation became regular and natural, all symptoms disappeared and health was restored.

20. *Vaginitis.*—In 1846, a negro girl, belonging to John Hause, of Smith county, had autumnal fever.—When she had been recovering for several days, it was ascertained that the entire mucous surface of the vagina and labia were discharging pus freely, and that, from incontinence of urine, the inner sides of the thighs were excoriated. The suffering was severe, constitutional disturbance considerable, and the patient could not sleep.—Directed the warm stream to be conducted into the vagina, with a syphon, for two hours daily, the thighs and external genitals to be washed and oiled frequently. Patient slept several hours after the first use of the syphon, and was well in four days.

21. *Dysmenorrhea.*—Mrs. B., æt. 25, the mother of one child, six years old, when I saw her in 1844. She had suffered painful menstruation for four years and had been under treatment for three years. Every six or eight weeks she was supposed to suffer from an abortion, followed by profuse hemorrhage. I attended her in one of these supposed abortions. A transparent shut sack was discharged, about two inches in diameter, and filled with a transparent serous fluid. The pains were severe, and the subsequent hemorrhage prostrating. Directed an eight-ounce self-operating syringe to be injected twenty times full of warm water up to the womb every day.—Tarter emetic ointment rubbed on the spine, and the usual constitutional remedies. In about three months she began to menstruate naturally, and was delivered of a healthy child in 1845.

22. *Leucorrhea.*—This disease can not resist a free use of warm water, thrown up the vagina daily. But the common little cylindrical female syringe is useless. Its use may cleanse the surface, but this is all it can do. It is difficult to introduce into the vagina, and does but little good when introduced. This instrument ought to be abandoned by the profession, and the self-operating sy-

ringe or the syphon substituted. It takes much water to cure inflammation. I have often known patients to fumble for weeks with the clumsy instrument I have mentioned, irritating the inflamed vagina as much as the process benefitted it; and then I have known the little instrument laid aside and the large self-operating syringe substituted, when the discharge would cease in a short time.

24. *Amenorrhea.*—I have often known the menstrual flux to follow immediately after an abundant injection of tepid water into the vagina. But usually weeks or months are required to produce the effect. Yet you ought to bear in mind, that this suspension of the secretion is owing to some grade of inflammation in the uterus, and the more water you direct to the womb, the sooner you will remove the cause and restore the function. And let it be here impressed, that *in all cases the water thrown into the vagina must be merely tepid*, (about seventy degrees Fahrenheit); for if as high as blood heat or higher, it will cause a distressing vertigo.

25. *Crural Phlebitis, (Phlegmasia Dolens.)*—12th October, 1846, I saw Maria, æt. 38, a servant of D. Palmer, of Smith county. Left lower extremity considerably swollen, as well as the labium of that side, very tender to the touch, particularly in the course of the veins; she could not bear the weight of the bed clothes, or extend the limb. Gave twelve grains blue mass, directed the warm stream to be poured three hours upon the femoral vein, just below the crural arch, to be repeated daily till relieved; and the limb to be bandaged just after each use of the stream. The first application gave striking relief.

13th. Patient much improved; limb not so tender, nor so tense; can be extended. The stream was used as before, and the bandage immediately applied from the toes to the hip. From this moment, the patient ceased to suffer, and needed no further treatment, except to reapply the bandage, so as to follow up the shrinking of the limb.

In a week from the beginning of the treatment, the patient was walking about cured. During the same year, four other cases of this affection were treated with the stream of water, with results equally striking and prompt. This treatment was suggested by the pathology of the disease, as demonstrated by Robert Lee; and if the treatment is used early, it appears to be competent to cure the disease. How it would succeed in the advanced stage of the disease, I have had no opportunity to ascertain.

The foregoing cases, treated with the warm stream of water, must be sufficient to show its value clearly. Were I to enumerate all the cases which I have treated in this way, the number would amount to many hundreds. But you are not to infer that I have cured all the patients I have treated with this remedy, or that I have been always as fortunate as in the cases here reported. I have brought these forward to show the value of the stream of warm water, and not to claim for it infallibility. Like all other remedies, it must fail occasionally; but it has done more in my hands to subdue local inflammation than any other remedy, and I trust it will do as much in your practice. Some of you have seen it used in a few cases, and thus your own observation has taught you to estimate it; but when you have seen more of it, you will then be fully satisfied that I have not insisted too strongly upon its value.

Art. II.—*Case of Malformation of the Uterus, with Fatal Post-partum Hemorrhage; Morbid Adhesion, and partial Osseous Degeneration of the Placenta.* By R. C. Hewett, M. D., of Louisville, Kentucky.

About four o'clock in the morning of Thursday, the 28th of February last, I was called to go about two miles out, to attend Mrs. T., in labor with her first child. I

arrived at her residence about 5 o'clock, A. M., and found a rather short, very fleshy but otherwise symmetrically proportioned lady, with an entirely healthy appearance and somewhat florid complexion. The mother of Mrs. T., a most sensible and estimable lady, was present and informed me, that this, her only daughter, and three sons, were all that survived of her fourteen children; that her first labor occupied three days; that she had had twins several times, but that this daughter was not a twin.

Mrs. T. was nineteen years of age, had been married three years, and was now pregnant for the first time—up to the time of marriage, and for some months after, her health was uninterruptedly good, and the catamenia continued regular in all respects, until the period of pregnancy. About eighteen months previous to the latter event, she became the subject of prolapsus uteri, and suffered greatly with pains in the back and left side. These pains continued to harass her up to the time of delivery. Until pregnancy occurred she weighed only one hundred and twenty-seven pounds, and at the time I saw her, in labor, her weight, she informed me, was one hundred and eighty pounds. By calculation, made at the time, I found that two hundred and eighty days had elapsed since her last catamenial day. At the first onset of pain, about two hours before my arrival, the membraneous sac had given way, and the liquor amnii had escaped. On examination I found the os uteri dilated to about the size of a dollar, and as I then concluded, the head presenting, but subsequent explorations disclosed a breech presentation, with the sacrum regarding the left acetabulum; it must have been the sacrum of the fetus, presenting at first, with which my finger came in contact. The bowels and bladder had been sufficiently evacuated, the pelvis had ample capacity, and every thing seemed favorable for a much less tedious labor than it proved to be. During the forenoon, slight cutting pains continued

to recur at very irregular intervals, and in the afternoon they almost entirely ceased. At 10 o'clock, P. M., the pains became somewhat more active but were very transient; the os tincæ was not more dilated than in the morning; the patient suffered severely with constant pain in the back and left side, particularly if she attempted to lie down; she complained of headache; her face was flushed and the pulse was full and strong. About sixteen ounces of blood were drawn from the arm, with marked abatement of all the unpleasant symptoms; but still she could not lie down without excessive pain in the back and side, and the night was passed without sleep. On Friday morning, the patient was in good spirits, with the skin moist, circulation quiet, and the os uteri slightly more dilated. The relatives began to manifest great anxiety and apprehension on account of the unexpected delay in the case, and I expressed a willingness to have the opinion of any medical friend in relation to it. Dr. Knight was accordingly sent for, and, after careful examination, he concurred with me in opinion, that everything seemed favorable, and that nothing more could be done, nor should be attempted, to expedite the process, beyond the administration of opiates to procure sleep, and an enema, if necessary, to relieve the bowels. During this day and the succeeding night, the pains were very feeble, with intervals sometimes of several hours; and although laudanum and afterwards morphine were given, the patient reached Saturday morning without more sleep than transient dozing, and had continued to sit in a large chair. Tea and toast had been taken several times. She was sufficiently cheerful; showed no signs of exhaustion; the dilitation had made sensible progress, and the pains continued as before. About noon on Saturday, an enema of castor oil and laudanum was administered, which acted sufficiently. During the afternoon the uterus acted much more efficiently, and with more regularity, but the pains were still

unusually short. The breech was fairly engaged in the superior strait, by 7 o'clock, being a period of sixty-four hours since the commencement of labor. Still there were no signs of unusual exhaustion. She was induced to lie down, on the left side, and as the abdominal muscles were now brought into action, rapid progress was made, so that by 8 o'clock, the presenting part was passing through the vaginal orifice. Three or four pains more expelled the body as far as the shoulders, and then the expulsive efforts seemed to cease. I directed ergot ℥ss. to be immediately given; brought down the arms, and as the pulsations of the cord were very indistinct, the head was gently extracted. The child was remarkably large, perfectly formed, and irrecoverably asphyxiated. An immediate effort was made to set up respiration; and in a few moments my hand was applied to the abdomen of the mother, and the uterus, (I then supposed the whole of it,) seemed to be moderately contracted, although the tumor appeared to be longer and more pointed than I had ever noticed in any former case. The pulse was sufficiently full and firm, and not unusually accelerated. The mother of my patient was requested to place her hand upon the uterus and to follow it down with moderate pressure as it might contract. She remarked that it felt like a sugar loaf. My attention was again directed to the child, with attempts to resuscitate it, and after a few minutes I returned to the mother. Only one slight pain had occurred, and on making an examination the placenta could not be felt. Moderate traction was applied to the cord, and it became evident, from the firm sensation communicated by the cord, and by its mounting up, when relaxed, that the placenta was firmly adhering, high up in the uterus. This surprised me, as the latter seemed to be so much contracted. The pulse, also, was now more accelerated than I had ever observed in this stage. A message was immediately dispatched into the city for medical as-

sistance, to come with all possible speed. Up to this time, the mother of Mrs. T. had her hand pressed constantly upon the uterine tumor, as directed. There was no external hemorrhage to excite apprehension, and for the third time I made efforts to reanimate the child; and whilst thus engaged I heard Mrs. T. sigh and ask for a glass of water—I immediately went to the bed, placed my hand on the abdomen, and found the uterus much higher up than at the previous examination, but it still had the remarkable pointed peculiarity mentioned above; and now I was astounded by feeling another tumor, larger than the first, and below it, in the position the patient was lying, on the left side. For the moment I concluded this might be owing to some peculiar spasmodic contraction of the uterus. The pulse had become quick and weak, with hurried respiration and sighs; the face was bedewed with perspiration, and all the fearful evidences of internal hemorrhage were before me. Fifteen or twenty minutes had now elapsed since the birth of the child. Thirty grains of ergot, all I had, were directed to be given at once; my coat was instantly thrown off, and I proceeded to introduce my hand to extract the placenta, and induce contraction. On penetrating the body of the uterus, my hand encountered masses of coagulated blood, and passed up into a cavity, that at one point admitted it, with some slight difficulty, and which, beyond this, was expanded into a sac somewhat larger than my closed hand. But the placenta could not be found. On slowly withdrawing my hand this cavity contracted upon it, and I then felt the edge of a substance, presenting downwards, and a little to the right of the patient, which I at first supposed was the placenta partly detached, but soon found that this substance was incorporated with the anterior and posterior walls of the uterus. I then found the cord, and following it up, my hand passed off to the left, into another sac, in which I found a great quantity

of coagula, and the placenta firmly adhering, with the exception of about five inches of its circumference, nearest the center of the uterus. The substance I had before noticed was now ascertained to be a dense, thick septum dividing the upper part of the womb into two distinct cornua. In their then expanded condition, the fundus of each sac was distant from the inferior edge of this septum about the length of my hand, or seven inches. I commenced inserting my fingers between the placenta and uterus, and another peculiarity was disclosed, in numerous hard, rough points studding the uterine surface of the placenta. The after-birth was adhering with remarkable tenacity, and to remove it, without endangering the integrity of the uterus, required much caution. After it was separated, pressure was applied to the fundus of the placental side of the womb, whilst one of the attendants made firm counter-pressure externally, but no effort at contraction was made. The abdomen was covered with cloths dipped in cold water, and water was freely poured upon it, but the uterus remained as inert as if severed from the body. In the mean time my poor patient was becoming very weak and faint, the extremities cold, pulse feeble and fluttering, and the face perfectly blanched. Brandy and laudanum had been administered frequently and freely. They were continued, and the head was lowered as much as possible. I determined to withdraw the placenta, and some of the clotted blood. This was done as speedily as possible, and my hand was again carried into the uterus. The right side had expanded again, and my knuckles were pressed against the fundus of each cavity, alternately. External pressure and cold water were still applied, but no contraction ensued. All the usual expedients, within my reach, had now been used in vain, and I directed powerful, external pressure to be made over both sides of the uterus, so as to bring, if possible, the anterior and posterior walls in

contact, whilst I compressed the abdominal aorta, a short distance above its bifurcation, as firmly as I could with my fingers. By this expedient I hoped to gain, at least, some time. Those who have had to manage cases of flooding, in which an amiable and confiding patient, in the midst of healthy, vigorous and youthful life, may have been reduced, in a few moments, to the very verge of existence, and have witnessed a family, full of joyous anticipations, suddenly overwhelmed with the most fearful forebodings and uncontrollable anguish, may form some estimate of the awful sense of responsibility that had possession of me at this moment. And although this case was surrounded with anomalous features and difficulties, fully sufficient to make a fatal issue unfavoidable, they did not, at the time, make my mental suffering the less. An hour had passed since Mr. T. started into the city with my message, when Professor Rogers, generously sympathizing with my condition, and braving the very inclement night and perilous road, entered the room. If an angel had suddenly appeared to rescue me from drowning, the presence could not have been more acceptible. Although for some time I had held the aorta firmly compressed, and all the other appliances had been continued, my patient continued to sink, and when Dr. Rogers arrived, she lay as still and white, and almost as cold and pulseless as a statue of alabaster, and thus quietly expired. Dr. Rogers quickly introduced his hand, and at first thought the uterus was contracted, but when I requested him to direct his hand to the left, it passed high up into the placental side, which was still perfectly flaccid. The right side had probably contracted, in some degree, and into it, Dr. R.'s hand had at first penetrated. He at once pronounced it a case of malformed uterus. We made a hasty examination of the placenta, and points of ossification, extending over its uterine surface, were distinctly perceptible to the sight and touch.

To Dr. T. G. Richardson I am indebted for his valuable services in conducting the autopsy.

Autopsy—fifteen hours after death.—The body was found moderately rigid and perfectly exsanguinous. Not a drop of blood appeared, at any point, in the track of the scalpel. There was a subcutaneous layer of fat, fully two inches in thickness, covering the abdomen, and the muscles were remarkably attenuated. The uterus was partially contracted, and instead of a convex border at the fundus, presented a very marked depression. At the point of depression and for some distance downwards, the anterior wall evidently projected forwards; and to the touch, externally, a thick, firm mass was felt occupying that portion of the cavity. The whole organ, with its appendages, was carefully exsected.

The relations of the deceased, with a promptness that did great credit to their good sense and intelligence, permitted us to retain the uterus and placenta.

The uterus measures from the fundus to the os tincæ eight and a half inches; its greatest width, when lying flat on a board, is seven inches. A partial, fleshy partition extends antero-posteriorly and in a longitudinal direction in the cavity of the uterus; being attached to the middle of the fundus, and reaching downwards about two and a half inches, with a free crescentic margin. Its antero-posterior width is about two inches; its thickness, at the attached part above, half an inch, and it gradually becomes thiner to the free edge. It is not unlike the falx cerebri in shape.

When the uterus is distended with water, it appears exteriorly, in front, like the female breasts, if the nipples were removed, the division between the two sides being in appearance like that between the breasts.

In all other respects the uterus seems to be perfectly normal. The deciduous membrane lined both sides, as

patches of it are still adhering to the internal surface of the right or unoccupied side.

The placenta is peculiar, only in the points of ossification on its uterine surface, and in a somewhat oblong shape, with one end broader than the other.

These specimens were presented to Professor Cobb for the medical museum of the University of Louisville.

Remarks.—This case was probably an imperfect effort at what is called a double uterus.

From the fact, that before death, the right sac was smaller than the left—at one point scarcely admitting my hand—and from noticing that the free edge of the septum was then looking considerably to the right, I infer, that the fetus, as well as the placenta, occupied exclusively the left side; thus forcing the septum to the right of the mesial line with which it now corresponds. I conceive that this partition was not endowed with the same facility for growth or development and rapid contraction as the rest of the uterus. Otherwise I can see no reason why, at full term, the point of the fundus corresponding to the attachment of the septum was not as high up, at least, as any other part of the uterine walls, instead of being depressed as it was, and, with the two sides of the uterus expanded into two cornua, reaching up fully seven inches above the lower edge of the septum, as I noticed at the time.

This abnormal condition of the womb interrupted the favorable completion of parturition in several ways. In the first place, the fetus and placenta being confined to the left side, had less space for their development than in ordinary cases, and probably produced unusual distention, which may have been the cause of the ultimate fatal inertia of this side, and of the firm adhesion and partial degeneration of the placenta.

The axis of the left side being in an oblique direction

to that of the superior strait, must have made the contractions much less effective in dilating the os tincæ, and aided in producing the protracted labor. In this condition of the parts, which of course could not be anticipated, the position in which my patient was lying, on the left side, was certainly not the most favorable; as it increased the obliquity of the axis of the left side of the uterus. This position, in connection with the existing obliquity, by favoring the accumulation of blood in the left sac, probably caused, also, the hemorrhage to be internal.

The bifid state of the fundus of the womb, making two distinct sacs, completely deceived me when I first applied my hand to the abdomen, after the birth of the child; for, although I noticed a peculiarity in the shape of the uterine tumor, it seemed to be the entire organ, and its smallness was the means of misleading me, the more, as I concluded the uterus was so much contracted. From the time of the birth of the child, the left cavity, I have no doubt, was fully expanded and the hemorrhage that stealthily exhausted the life of my patient was already in progress.

The irregular, inefficient contractions that marked the case throughout, were probably owing to the septum, that acted as a band through the center of the uterus, crippling its movements, and preventing simultaneous contraction of all its parts.

Even if the placenta had not been adherent, and had, at once, been expelled, still, it appears to me, the presence of the septum would have acted somewhat like that of the placenta, in preventing sufficient contraction, and in inviting hemorrhage. As this septum was not developed in proportion with the growth of the walls of the uterus, it is fair to conclude it could not contract so readily, nor until after some considerable time would elapse.

The complete inertia of the left cavity cannot be accounted for by supposing a state of general exhaustion

arising from the protracted labor, for the countenance, state of mind and pulse of the patient, gave no indications of unusual fatigue, and the right side did contract, readily, when my hand was first carried into it. It might, perhaps, be considered as in "a state of stupor caused by sudden evacuation," after unusual distention.

The most usual effect of morbid conditions of the placenta, is imperfect development of the fetus, and its premature expulsion from the uterus. In this case, the fetus was perfectly formed and very large; was undoubtedly living a short time before birth, and the full term of gestation had been completed.

As to the cause of abnormal adhesions of the placenta, much uncertainty seems to exist. In Cazeaux's Midwifery, I find the following, which is probably the sum of all that is known on the subject. "According to most authors, they are owing to a fibrous transformation of the cellular filaments which hold the placenta and uterus together, whereby they acquire a degree of solidity sufficient to withstand the uterine forces. These adhesions have also been referred to the degenerations of the placental tissue itself, as well as to various osseous and calcareous concretions."

Various authors mention the fact of the occasional occurrence of cases of double uterus, and of several other irregularities in the formation of the female organs of generation. Dr. Churchill mentions the *uterus bicollis*, *uterus bicorporeus*, *uterus biangularis*, &c., and says: "it is remarkable that these malformations, which are owing to an arrest of development, appear to reproduce the analogous organs of lower classes of animals." "These congenital malformations are by no means very rare; Dr. Cassan collected forty-one examples, and many others have since been reported." I have not found any new cases reported for some years past.

Dr. R. Lee says, in all cases of this kind, "without a sin-

gle exception, the uterine appendages have been simple, or have consisted of one ovarium and one Fallopian tube annexed to each cornu of the uterus, and not of two ovaria and two Fallopian tubes, as the term double uterus would seem to imply."

In the Med. Chir. Rev., vol. 19, the following case is recorded: "M. Moreau (Academy of Medicine, Paris) presented a very beautiful specimen of a uterus completely divided into two equal, lateral halves; each provided with a tube and ovary; each separated from the other by a double partition, and each having distinct necks and mouths into a single vagina. The woman died after an accouchement. The fetus was a male, and had been developed in the left cavity; and, therefore, not in accordance with the whimsical idea that the right ovary furnishes the male and the left the female germs."

Dr. Robert Lee says: "In the museum of the Royal College of Surgeons, in London, there is a specimen of bifid unimpregnated uterus, and another was preserved in the collection of Mr. Brookes, in which the fundus, cervix and os uteri were all divided by a thick septum.—Similar cases have been recorded by different writers.—Messrs. Lauth and Cruveilhier have reduced all the malformations of the uterus to the four following varieties:

1. Where the uterus and vagina are separated into two cavities by a septum running in the direction of the mesial line, while the external configuration presents nothing unusual.

2. Where the fundus and body of the uterus are divided into two cornua, the cervix, os uteri, and vagina remaining in the normal state.

3. Where the uterus is bifid, as above, while the cervix and vagina are divided by a septum.

4. Where the vagina forms a single canal, with a double os uteri."

An attempt has been made to explain cases of al-

leged superfetation by supposing the existence of a double uterus; but this theory seems to be overthrown by the case, reported by Dr. Lee himself, "of impregnated double uterus, in which an organized deciduous membrane, in the form of a shut sac, lined the unimpregnated cornu, and rendered superfetation and menstruation impossible."

It might be a subject of very interesting inquiry, how far these cases of imperfect double uterus may favor the production of twins. As these malformations seem to be a reproduction of corresponding organs of the lower classes of animals, it is not altogether unreasonable to suppose that some tendency to the multiparous nature of these classes, may, in such cases, exist.

ART. III.—*A Case of Chronic Pneumonia, with Anomalous Physical Signs.—Abscess.—Death.—Autopsy.* By DAVID W. YANDELL, M. D., of Louisville, Ky., Attending Physician for the Faculty at the Louisville Marine Hospital.

Patrick Green, marine, æt. 30, an Irishman and a hard drinker, was admitted into the hospital on the 4th of September, 1849. His general health, according to his own account, had been singularly good for one of his occupation and habits. In May last, while lifting a bale of cotton on the levee in New Orleans, he was suddenly seized with a severe pain in the right side of the chest, which was soon followed by a high fever and frequent dry cough. He entered one of the New Orleans hospitals; was cupped and blistered over the seat of the pain; took medicines internally, and at the end of a week was so far relieved as to be able to resume his work. The cough, however, still continued. It appeared to him that after this attack he was particularly liable to contract cold on the slightest exposure, when the pain and fever would

return and the cough increase. His general health became impaired; his appetite was poor and capricious; he lost flesh and strength and spirits. His cough continued to grow more and more troublesome; was especially severe early in the morning, and often kept him from closing his eyes during the night.

The cough was dry, from May until the first of August, when it was followed by the expectoration of a thick, straw-colored matter. Very shortly after this, hectic fever and night sweats came on.

On the 1st of September he was exposed to cold; had a chill. This was followed by fever, pain in the right breast, and aggravation of the cough. The next morning, on getting up, the patient remarked an entire change in the character of the sputa. They were red, bloody, mucous, not very tenacious, and very abundant. Two days after this, he was received into the hospital, when the following condition of things was observed:

Expression languid and weary. Skin dry; pulse eighty eight, irritable; tongue slightly coated; bowels regular; no appetite; thirst; cough frequent, paroxysmal and painful; respiration twenty-three, short; expectoration copious, raised at each paroxysm of cough, of a very disagreeable earthy odor. The color was striking and peculiar. It was pink. The blood was intimately admixed with the other matters, save that here and there, there was a streak of muco-purulent fluid.

Physical signs.—A shade of dullness was observed on the right side, from the third rib downwards. Left side resonance and respiratory murmur normal. Respiratory murmur at the superior part of the right side normal.—After passing the third rib it becomes mingled with the mucous ronchus and occasional friction sounds. The ronchus is most distinct posteriorly, while in this region the friction sound is entirely wanting. There is also a

slight, deep-seated and indistinct crepitation at the posterior part of the right side.

I ordered four cups on the anterior and four on the posterior part of the chest over the seat of the pain, and the use of the following cough mixture:

℞. Syrup tolutan., ℥vj.
Tinct. digital., ℥j.
Vin. ipecac. ℥iv.
Tinct. opii, ℥ss.
Sol. acac. ℥iv.

M. S. Dose, ℥j. every two or three hours.

On the next day, the patient expressed himself free from pain. The physical signs remained the same.

During the next eight days there was no perceptible alteration in the condition of the patient. The cough had, in some degree, perhaps, abated. The expectoration had in no wise changed its character nor diminished in quantity. The patient was daily spitting up from one and a half to two spittoons, of the ordinary size, full, during the twenty-four hours.

Deeming the use of astringents advisable, the patient was directed to take the acetate of lead, in combination with opium, though without any apparent relief being obtained.

The hectic fever and night sweats were greatly mitigated in intensity by the administration of the remedies usual in such cases. Day by day, however, the patient grew more and more feeble; his appetite was totally lost; he was scarcely master of enough strength to walk about the wards. His cough distressed him by day, and kept him awake at night. He had occasional diarrhea, and once or twice every week exhausting night sweats. Still the physical signs remained fixedly the same. Blisters were used; permanent counter-irritation; cups when pain was complained of; tonics, restoratives, nutricious food, and finally cod liver oil. This was in September and October. Towards the close of the latter month,

while calling the attention of the young gentlemen present at the hospital clinique to the case, I heard unequivocal signs of the existence of a cavern in the mammary region of the right side. This was while the patient was lying down. When, at my request, he sat up, all cavern signs had entirely disappeared, and were never after perceptible, notwithstanding careful search was made almost every morning, from that time until the patient's death.

After one month of unavailing treatment by cups, blisters, opium, ipecac, and emetic tartar, it was deemed advisable to bring the system of the patient gently under the influence of mercury. This was effected by the administration of two grains of blue mass, and quarter of a grain of opium, three times a day, and the mercurial ointment dressing to the blisters, and was kept up for a fortnight. This proved quite as inefficient as the former remedies had done. The cod liver oil was now exhibited in combination with the syrup of iodide of iron, and the blisters repeated. The oil produced such irritation of the bowels that it was suspended after using it ten days. The iodide of iron was continued however for three weeks. As high as twenty-five drops of the syrup of iodide of iron was given three times a day, without producing any sensible change in the condition of the patient.

During the second, third, and fourth week in November, the sugar of lead in doses of one grain in combination with half grain of opium was given every six hours. The expectoration seemed for a few days to be lessened in quantity—its characters were uniformly the same. Other astringents were taken without appreciable effect. Two months had passed away, and the third was half advanced when the only noticeable change in the physical signs was an increase in the dullness of the right side inferior to the third rib, and a greater feebleness of the respiratory murmur over same region. And perhaps the bron-

cophony was more distinct than it had been before—though it was very clear and loud from the first.

Emetics of ipecac and sulphate of copper were now exhibited every other morning. Doing no apparent good, and being bitterly complained of by the patient, they were omitted, after the fourth had been taken.

The patient at this date, 15th of December, lies entirely on the left side. Lying on either his back or right side increases cough. Within a few days past has had considerable dyspnea on the right side. Expectoration copious and fetid. Allowed brandy and water several times a day.

Gradually the patient continued to wear away. His strength steadily failed. His appetite was entirely lost. The pain in the side recurred every day or two. The dyspnea slowly augmented. The cough harassed him constantly. Hectic, night sweats, the copious expectoration and an abundant diarrhea, which more than twenty remedies had failed to arrest, eventually exhausted the remaining powers of the patient, and on the 5th of January, just four months after I had first seen him, he died.

Autopsy twelve hours after death.—Left lung healthy. The whole of the right lung, save a small portion of the superior lobe, not larger than a man's fist, which was healthy, was hepatized. Both varieties of hepatization were present, the red at the superior and middle portions of the lung, the grey at the lower. An abscess, about the size of a hen egg was found near the surface of the lung just opposite the point where the cavern signs had been detected during life. It was filled with a very thick tenacious pus. Another abscess, of five times the volume of this, was formed on a direct line with it at the base of the lung, and was formed by the lung, diaphragm and liver, one third of it occupying the superior surface of the liver, one third lay between the liver and lungs, its

walls being formed by the diaphragm and false membrane, while the remaining third was situated in the pulmonary substance. The contents of this were identical in every particular with those of the first. Towards the summit of the right lung where the friction sounds had been heard during life, numerous patches of lymph and traces of a recent pleurisy were found. Remaining organs of body healthy.

Louisville, Ky., March 20, 1850.

Erratum.—In my communication for the March number of the Journal I find that the date of the death of Mathias Gross is omitted. He died on the 18th December. D. W. Y.

Art. IV.—*A Case of Traumatic Tetanus.—Recovery.* By Samuel S. Emison, of Scott county, Ky.

Wm. P., æt. twenty years, very healty and athletic, was accidentally shot on the 25th December, 1849; the tow, with which the pistol was nearly filled, entered the left leg a little above and behind the external malleolus. Several large wads of tow were extracted soon after the receipt of the injury, and his medical attendant, believing that all foreign matter had been removed, directed him to poultice the wound, keep the limb quiet, and take a cathartic occasionally. In a few days the wound commenced suppurating, and another large piece of tow was removed. Soon after this, the wound healing rapidly, he disregarded the instructions which had been given. On the 13th January he rode several miles on horseback, the weather being cool and damp, and at night he felt considerable pain in the wound, with cramps of the muscles of the leg. On the 14th, these increasing, he was bled ℥xvi. without relief. His suffering gradually increased,

and on the morning of the 15th, when I first saw him, there was constant rigidity of the muscles of the inferior extremities and abdomen. In addition, there were paroxysms of spasmodic contractions of the diaphragm, muscles of the back, and superior extremities, recurring every twenty minutes and producing well marked opisthotonos. These lasted but a few seconds each time. The skin was bathed in perspiration, bowels costive, pulse and respiration, during the intervals of the paroxysms, respectively ninety and twenty; urine scanty, high colored and voided with difficulty, tongue slightly coated, otherwise healthy; the patient had slept none the preceding night. The wound had nearly healed, but was dry, with everted edges; ancle somewhat swelled. At 10 o'clock, A. M., a powder, composed of calomel gr. xxv, ipecac gr. ij, was given, and a poultice of hops applied to the wound. At 12 o'clock, A. M., castor oil ℥jss, was given. An hour and a half after, a copious, feculent stool was procured, and soon after another. After the first, sulph. morphia, in doses of grs. ss., was given every half hour, for two hours, and afterwards laudanum gtt. lx every hour. After the third portion of laudanum, a disposition for sleep was manifested during the intervals of the alternate spasms, and the anodyne was suspended. No impression was made on the convulsions, which increased in severity, until 12 o'clock, P. M., when there appeared to be an abatement. The patient was directed to take the laudanum sufficiently often to keep him quite sleepy. Eleven o'clock, A. M., 15th, spasms again becoming severe; the treatment of the previous day was continued, except that the anodyne was given more freely, and a blister plaster substituted for the poultice. The cathartic procured but one small stool. The spasms were as frequent and more violent and painful than they had been during the previous evening. About midnight they again somewhat abated, but the exacerbation was

renewed about 10 o'clock, A. M., 16th. The sufferer was now much exhausted; pulse one hundred and five and weak; skin perspiring freely; no appetite. The blister was dressed with basilicon ointment, and the laudanum given, *pro re nata.* The condition of the patient was now most distressing; the spasms were excited by every sudden noise, and every movement of his body. The remedies which had been employed, seeming to give little relief, if any, at 6 o'clock, P. M., 16th; sulph. quinine ℥ss. was given, and the anodyne treatment was continued. There was a remission at midnight which continuing at 12 A. M., 17th, rhei. pulv. grs. xl, was given, and three hours after, castor oil ℥ij; acted freely. The anodyne was given p. r. n., and at 6 o'clock, P. M., sulph. quinine ℥i., was given. Ten o'clock, A. M. 18th, skin not too moist, pulse eighty, with more volume, periodic spasms very much less severe and not recurring oftener than once in two or three hours; some appetite; sleeps better. Laudanum given less frequently, and at 6 P. M. quinine ℥ss. Ten A. M., 19th, spasms return at distant intervals, and very slight, except in the muscles of the abdomen; that region is still almost as hard as a board. The convulsive movements, which now seldom take place, except when the patient attempts to turn in bed, very much resemble those produced by a light shock from electricity. The treatment of the past few days, detailed above, continued four or five days longer, during which time the spasms entirely disappeared. The wound was made to suppurate with some difficulty, but finally healed and the man is now well.

I have given a faithful and by no means an exaggerated account of what I considered a case of traumatic tetanus, arrested mainly by the use of quinine. Others may draw different conclusions. It may be said that the large doses of opium and mercury were the better remedies; or, that the vis medicatrix naturæ achieved a victory

over both disease and empiricism combined. I confess that it was with little hope of benefit that I gave the quinine, nor do I claim originality for the use of the article in such cases. The practice originated with one of the oldest and most eminent surgeons of our country. At all events it would not be amiss to give quinine a fair trial, in a disease which has been so long one of the opprobria of the profession.

Scott county, Ky., Feb., 1850.

ART. V.—*Remarkable Complication of Diseases.* By CLAIBORNE PIRTLE, M. D., of Louisville, Ky.

On the 30th January, 1850, I was called to see William Poutch, a lad aged fourteen years.

I learned from his family that he came home the day before complaining of very great pain in his knees and elbows, extending up the arms, and it was with great difficulty he could walk or use his arms. I found him on my first visit pretty much as I was told he had been the day before, when he came home from his work in the foundery. Upon examination I found great tenderness and soreness of the knees and elbows, extending up the arms. There was neither swelling, heat, nor redness of the parts complained of, but they were painful when moved. The tongue was coated with a yellowish fur; the pulse excited but little, if any; the face was somewhat flushed and covered with a gentle perspiration; bowels rather inactive; no headache. I ordered the following prescription: ℞ Hydr. submur. grs. viii, sulph. quinine grs. iv, pulv. opi. gr. ss. mix, make iv pills; one pill to be given every two hours.

January 31. The medicine had not moved the bowels; great complaint of pain in the abdomen, but there is no disposition to evacuate the bowels; knees, arms, and

wrists painful; has vomited several times this morning; great thirst; pulse about the natural frequency but feeble; no fever; tenderness and pain over the abdomen upon pressure, particularly over each iliac region. Ordered an enema of castor oil and spirits turpentine to be given in thin starch water, and thus succeeded in producing three motions upon the bowels, of a consistent bilious character.

Evening.—Pain still continues in the bowels, with repeated vomitings. Ordered, to be given through the night, a pill of camphor and opii, to be repeated frequently until the bowels or pain in the abdomen should be relieved. Sinapisms of mustard were ordered for the abdomen.

February 1st.—Found the patient easier than the day before; had slept some and did not vomit. While examining him this morning, I found his ears livid or of a purplish hue, and the skin evidently in a state of deep congestion. He told me that there was a breaking out upon the tops of his thighs, and, upon examination, I found the nates and gluteal region covered with a great many purple spots, some of them, perhaps all, some little elevated above the surface of the surrounding skin. I ascertained the existence of similar purple spots upon various other parts, and especially upon each elbow and ankle. On examining the mouth I discovered a sprinkling of these spots upon the epithelium of the lips and gums and palate. There is no fever, but the thirst continues. Ordered sulph. quinine ℈i, carb. ammonia ʒi, simple syrup ʒij, paregoric ʒj, mix; dose, one teaspoonful every two hours. On my visit in the evening I found that the gastric symptoms had come on again, and that everything taken into the stomach had been vomited up. Thirst very great. Directed ice to be swallowed, and ordered hot cloths, wrung out of heated spirits, to be applied to the abdomen; discontinued all medicine internally.

February 2.—The patient had a bad night; slept but little; vomiting continues; considerable tympanitis and thirst; pulse frequent and feeble. Ordered an enema, but did not succeed in opening the bowels. Gave brandy and water; directed warm flannel to the bowels; the stomach has constantly rejected all nourishment.

February 3.—All the symptoms continue as on yesterday; bowels not moved; tympanitis considerable; everything taken into the stomach is thrown up. Ordered eight leeches to the epigastrium, and sinapisms and hot fomentations over the bowels. Directed chicken water as diet.

February 4.—Found the patient worse; he was throwing from the stomach a fetid, colored fluid, indicating a reversed action of the peristaltic motion of the bowels. There was a peculiarly anxious expression of countenance. An enema of castor oil and turpentine was given in thin starch water, and a discharge of hardened feces was obtained. Prescribed creosote mixture. Gangrenopsis showed itself in full force about this time.

February 5.—More quiet this morning; slept well last night, but manifested a marked typhoid state of the nervous system. Fluid magnesia, with as much camphor as it would hold in solution, was ordered to be given frequently through the day. In the evening found the sufferer sleeping soundly; has not vomited since some time in the night; tympanitis has almost disappeared, but there is fullness in the epigastric region; knees not so painful; no particular suffering complained of at any point to-day.

February 6.—On my visit this morning I found him very restless again. Pulse excited and some fever; commenced vomiting again this morning; left off the brandy; gave him, as before, ice freely. Saw him in the afternoon, with Dr. Bell; all his previous symptoms aggravated; vomiting the contents of the bowels; gangrenous condition of the mouth; fetid breath. Ordered charcoal

and yeast to be given freely, and also Catawba wine, by the ounce, frequently repeated. A combination of castor oil and turpentine was given by the mouth, and injections of the same were directed.

February 7.—No change in the aggravated symptoms; nothing was retained on the stomach; great tension of that organ; the mind was rational; had slept some during the night; thirst great; expression sunken and anxious; as the injection had not been given, ordered it this morning; succeeded in opening the bowels; gave wine, but he died at three o'clock, P. M.

Remarks.—Dr. Pirtle has detailed, with minuteness, the principal features of the remarkable complication of disease in this case. In a long experience we never saw anything like it. The little victim was one of the most remarkable boys we have ever known. He was very industrious; free from everything like vice, temperate in all things, and we found it impossible to trace his diseases to violations of the laws of health, either in his trade, his mode of life, or the location of his dwelling. His parents have the appearance of being very healthy.

In these circumstances it is difficult to account for the complexity of diseased actions manifested in his case—purpura, gangrenopsis and typhoid fever were well marked in their presence.

The case is a curious one in pathology, and, as such, is submitted to the profession. A portion of its described features make it resemble some of Andral's cases of gastro-enteritis, but no one could have mistaken the case at the bedside.—*Ed. Western Journal of Medicine and Surgery.*

REVIEWS.

Art. VI.—*On the Treatment of Gun-Shot Wounds.* By Benj. W. Dudley, M. D., Professor of Surgery in Transylvania University. Transylvania Medical Journal, Vol. 1, No. iii. Dec., 1849.

On the Use of the Bandage in Gun-Shot Wounds, etc. By Benjamin Winslow Dudley, M. D., Professor of Anatomy and Surgery in Transylvania University. Transylvania Journal of Medicine, etc., Vol. 1., p. 501. 1828.

It has been remarked that members of the medical profession are prone to pay undue homage to genius, and to bow the knee to authority without that scrutiny which should ever characterise those on whose action often depend the issues of life or death, hence, the thousand instances in which they have been found wandering in a vicious circle, guided by a delusive light, while all nature lay spread out before them, inviting their attention, and offering to all, and yielding to those who accepted the offer, the richest repast of unadulterated truth. Perhaps, no department of surgery has suffered more than the military, by this blind adhesion to authority, and consequent utter neglect of all true sources of information. Occasionally a light shed its rays over the blood-stained battle field, and an error gave place to truth, until the accumulated stores of ages have furnished ample materials to bless the nineteenth century.

The treatment of gun-shot wounds, based upon rigid observation and an impartial analysis of facts, so bountifully supplied by the records of the past, and the experience of the present, is now well up to the high standard of other departments of the science. Rational treatment,

marked by simplicity and an adaptation to the indications presented, has supplanted the empyrical and complicated practice of other times, and thousands whose wounds would formerly have resulted in the loss of life or limb, now live to bless the memory of those whose enlightened experience has wrought this change so fraught with good to man.

The time was, when the civil surgeon, who had scarcely ever smelled gunpowder, exhibited a dignified contempt for any and everything that emanated from his brethren, who ministered to those who followed the fortunes of war. The sentiment, thus expressed, was perhaps in some degree justified by the tardy advancement of the science of military surgery. Considering the vast opportunities offered to army surgeons, by the casualties of war, for the most extensive observation of every species of wounds, it is not a little surprising that the science did not keep pace with the art. While many army surgeons attained a nice tact in the dressing and management of desperate wounds, few, during a long period of time, added anything material to recorded science, or succeeded in developing any new or valuable principle of practice. Whether this was owing to the fact that the duties of the military surgeon were usually performed under circumstances highly unfavorable to calm and systematic research, or, that these onerous duties were rendered frequently in the field, where neither time nor convenience permitted the military surgeons to record the particulars and results of their extensive observation, or to other causes, the reproach is not now as just as it was formerly.

Many able surgeons, fresh from fields of blood and carnage in more modern times, have accurately observed and faithfully recorded the valuable information gleaned amid the havoc of war, and the day has gone by, when we may reasonably expect the civil, to instruct the mili-

tary surgeon in the duties of his peculiar vocation. On the contrary. the former is deeply indebted to the latter, for the overthrow of many fatal errors, that too long stayed the onward march of modern surgery; and for the establishment of numerous conservative principles, the result of diligent inquiry and enlightened experience on many a bloody field, more especially during the continental war that terminated in 1815. To military surgeons, the honor is due of having first contested, and finally, overthrown the pernicious doctrine of Hunter, that amputation must be deferred until suppuration is established, notwithstanding the operation may be clearly and absolutely demanded by the nature and extent of the wound; to them we are indebted for correct information in regard to the practical difference between local and constitutional gangrene; they dissipated the delusion, that it was impossible to command hemorrhage from the large arteries; relieved disarticulation at the hip-joint from the stigma of being a murderous operation, and threw a cheering light on numerous minor points, over which the profession had long groped in darkness.

A moment's reflection will satisfy any one that enlarged observation and experience, which hapily falls only to the lot of surgeons on the field of battle, can alone enable one to appreciate fully, the varied nature and correct treatment of the important class of wounds, which constitutes the subject matter of the essay before us. The philosophical principle, laid down by Percival, is as applicable here as to any other practical branch of medicine. "The materials of just pathology can be drawn only from large masses of observation assembled and arranged in the order of their subjects; nor can durable improvements in practice be established on less full and luminous evidence." Believing this great principle to be true, in all its extent, we feel it due alike to ourself and to our readers to confess our incompetency to do full justice to the subject,

upon the consideration of which we are about to enter, if compelled to rely wholly on our own circumscribed observation. Although, in the outset of our professional career, we were thrown where the violence and casualties of frontier life made gun-shot wounds no unfrequent occurrence, and not a few came under our charge, yet we confess that our experience, like that of all civil surgeons, is far two limited to establish a mode of practice, except so far as its correctness and value may have been confirmed by others, who may have been placed amid scenes more favorable to a full and unrestricted study of these complicated accidents. Hence we shall not hesitate to draw liberally on approved authorities in support of many practical remarks which we may have occasion to make on the essay before us.

Our references may appear to be unnecessarily minute and numerous; this, however, will doubtless be pardoned by the reader, when he remembers the influence of the great name that gives weight to the principles contained in this essay, and the remarkably exclusive practice inculcated therein; the utter contempt of its distinguished author, for "the books;" and the high and extraordinary pretension to originality, which forms a distinguishing feature in almost every effusion of his pen, and which is no less prominent in his annual didactic course of instruction. A common introduction to many of the eminent professor's lectures, runs about as follows: "Gentlemen, I regret to say that, in this matter, I stand alone; that I do not know a single author to whom I can refer you for information, who has treated the subject rationally. I would, therefore, impress upon you the vast importance of an undistracted attention to what I am about to say, embracing, as you will perceive, principles and practice to be learned no where out of this hall."

Another consideration justifies us in the exercise of more than usual care, in bringing to our support the

great names, of acknowledged ability, who have won for themselves undying renown, by enlarging the surgeon's sphere of usefulness, and by contributing to the relief of suffering humanity, in numerous cases previously thought to be beyond the reach of the highest professional skill. No one has ever yet been permitted to differ in opinion from Professor Dudley, even on the most insignificant points, without subjecting himself to the serious charge of being actuated by base and unworthy motives. His friends seem to regard him as absolutely immaculate, and they cannot conceive the possibility of an honest difference of opinion between him and others. Hence, no sooner is one of the Professor's doctrines controverted, than the whole kennel rises in fury, and bays forth indignation in a language and style unknown to true science, and which can find a corresponding response only among a certain portion of that debased London population, whose peculiar propensities, habits, manners and diction, are too well known to need illustration.

These unmanly denunciations shall have no influence upon us; on the contrary, it shall be our constant aim to avoid being provoked into the betrayal of an intemperate zeal, which, but too often, usurps the place of knowledge, and shamefully exposes the violence of the unsubdued passions or the intellectual poverty of its unfortunate victims. We would not, willingly, do any injustice to Professor Dudley, and, with every disposition to assign him the rank to which we believe he is fairly entitled, we may be indulged while we briefly scan the eventful history of military surgery, as applicable to the peculiar class of wounds treated of in the essay before us.

When and by whom gunpowder was discovered, is still involved in great obscurity. Roger Bacon was doubtless acquainted with its detonating force, in the twelfth century, but the honor of the discovery is generally awarded to the genius of Berthold Schwartz, a monk of Mayence,

who, it is believed, brought it into practical use about the close of the thirteenth or the beginning of the fourteenth century. The Venitians, having acquired a knowledge of the properties of this wonderful compound, availed themselves of it for military purposes about the year 1350.—Immediately afterwards, an acquaintance with its astounding power spread rapidly to every part of Europe, effecting a radical change in the mode of warfare, and introducing to the surgeon a species of wound, marked by decided peculiarities, never before submitted to his care and observation. The general tendency to a belief in the marvellous, which formed so prominent a characteristic of the human mind at that age, very naturally led the uninstructed to attribute the astounding effects of this new and potent agent to the power of magic; whilst the surgeon, speculating on the novel features presented by the wounds inflicted by its agency, regarded them as poisoned, and therefore requiring peculiar treatment; a treatment intended—and, as they supposed, adapted—to eliminate or neutralize the venom, and to obviate the singular effects of the unusual forms of this new missile, and the supposed ustion of the parts. This error became universal, and exerted its cruel influence for ages. Hence the actual cautery, boiling oil, corrosive acids, etc., were everywhere resorted to, inflicting serious injury, and an incredible amount of unnecessary suffering. According to M. Bauden, this practice is, to a certain extent, still in vogue amongst the Arabs.* An ointment highly extolled by Albucasis has, to the present day, maintained its ancient renown, and is held in universal esteem by that notable people.

This error maintained its ascendency and dominated over all minds until the time of that remarkable man, Ambroise Paré, to whom the medical profession, in all its

* Clinique des Plaies D'Armes a Feu. 1836.

departments, is so largely indebted for valuable discoveries and improvements that, in our day, are not unfrequently claimed by men of mediocrity, as the veritable offspring of their own puny intellects. Even Paré was, for a time, misled, and his splendid genius bowed before omnipotent authority, until accident revealed to him the truth, and shed light upon errors rendered venerable and sacred by the lapse of ages.

With his accustomed candor and naiveté, Paré confesses that chance led to the happy discovery. Young, ardent, and unpracticed, he plodded onward in the beaten pathway pointed out by the masters; and his ministrations to the wounded soldiery, who unfortunately fell in the ranks of the army of Piedmont, were in strict accordance with the precepts he had learned. Providence, however, favored a reformation pregnant with good to man. Paré saw, with grief, but a portion of the wounded dressed, when the medicinal agents, at that time believed to be essential in neutralizing the poison of gun-shot wounds, were altogether exhausted. Forced by necessity, he reluctantly resorted to milder dressings, the only kind then at his command, and under the influence of dreadful apprehensions he retired to rest—but not to sleep. Fear agitated his humane heart, and effectually banished sleep from his eyes during the whole of that long and dreary night. With the early dawn he arose to visit the poor disabled soldiers, expecting to find all those dead who had failed to receive the usual treatment. To his great surprize and joy, he found them buoyant in spirits and free from pain and fever, while those whom, the previous evening, he thought most fortunate, were dejected and haggard and writhing in agony, and parching with fever.* All this would have imparted no instruction to a mere routinist, or to one who allows prejudice to subdue rea-

* Œuvers Completes d'Ambroise Paré, tom. ii, p. 127.

son; the one would have continued his silent, thoughtless adhesion to authority; the other, would have discovered naught in it but accident. Not so, however, with Paré; in the beautiful language of one of his own countrymen: "Apotre de la vérité, il la proclama hautement, et se fit des ennemis parmi ces hommes que leur médiocrité a toujours poussés à défendre leurs erreurs et leurs préjugés avec une persévérance désolant."

In spite of the most bitter and unrelenting opposition of ignorance and fanaticism, the great architect of surgery succeeded in dispelling the mischievous and fatal errors, which had wrought so much evil in the management of gun-shot wounds; triumphantly established more correct notions in regard to their nature; and caused a cruel and empyrical mode of treatment to give place to one, the simplicity of which was equalled only by its success.

We cannot but be astonished at the correctness of the views, so far in advance of his age, presented by this wonderful man in a discourse addressed to Charles, the Ninth, on the occasion of the death of the king of Navarre, who was wounded at the siege of Rouen. In this discourse, Paré clearly demonstrated the mode of action, and the peculiar effects of round bodies, and other projectiles on the various sub-systems of the animal economy; and the true causes of the discoloration, and other peculiarities and dangers attending such wounds, are lucidly pointed out.

It is quite unnecessary for us to enter into a full analysis of Paré's doctrines—let it suffice to say, that before his genius the ridiculous theory adopted by Very, Botal, Vigo and others, disappeared as does the morning dew before the rising sun; and with it vanished forever, from civilized surgery, those phantoms of venom and ustion, that had so frightened the surgeon from his propriety, and entailed upon suffering humanity untold evils.

Paré wrote comparatively little upon gun-shot wounds,

yet, if we except some complex and antiquated ointments in use at that time, little was added to the invaluable truths he taught, until we approximate closely towards our own age.

Paré's predecessors, as remarked by Richerand, limited themselves to puerile commentaries on the writings of the Arabian authors, and reduced surgery to the use of ointments and plasters;—with rare exceptions, his successors did little better than offer their servile devotions, at the shrine of the master, whom they adored.

About the same period, Maggius, in Italy, nobly met the objections of Sennertus, and lent his powerful energies to the overthrow of the absurd theory that had so long sustained an irrational and barbarous treatment. Not content with ingenious speculations, however plausible, he appealed to observation, and by a rigid course of experiments, instituted for that purpose, demonstrated the non-venomous qualities of gunpowder; and clearly proved that the projectile was never heated to a degree sufficient to burn even the most combustible substances, and, of course, it could have no such effect on the living tissues. These views induced him to adopt a treatment, at once simple, rational, and successful.

The doctrines of these two great masters were sustained with zeal, energy, and uncommon ability, by J. B. Cancano Leone, of Milan, whose influence and unanswerable arguments, drew to their support almost all intelligent surgeons of the day.

The same views were maintained by Fallopius, in France, and Felix Wurtz, in Germany.

Guillemeau and Francis Thanchin taught the important doctrine, that gun-shot wounds differ from others chiefly in the extent of contusion.

William Clowes, at one time a naval surgeon, but subsequently attached to the army, published a work in 1591

on this class of wounds, distinguished especially for an ardent advocacy of mild dressings.

About 1676 Wiseman gave his contemporaries a practical treatise on gun-shot wounds, which was followed two years afterwards by a learned work on the same subject by John Brown.

In the early part of the eighteenth century several German writers published their views, amongst whom stands preëminent the distinguished surgeon Heister, to whose "General System of Surgery and Surgical Cases" we have often referred, with much profit on various important and practical points.

About the middle of this century, John Ranby published his method of treatment, characterised mainly by his advocacy of a free use of the lancet, light, easy dressings, and a sparing use of instruments.

Francis House, a careful and accurate observer, wrote on the same subject in 1742. The French revolution gave occasion for the display of surgical talent which was, not only not neglected, but highly improved by such men as Baron Percy, Larrey, etc., to whom we are indebted for the valuable results of a protracted and enlightened experience.

Hunter's great work was published in 1794, and in spite of some errors, which modern observation and experience have corrected, it yet stands and will ever remain a monument to his extraordinary genius.

The mere enumeration of those who have cultivated this department of surgery since that day, and given the results of their labor to the profession, would occupy more space than can be allotted to this article. The Bells, Chevalier, Richerand, Boyer, Hutchison, Cooper, Guthrie, Hennen, Lebert, Jobert, Blandin, and a thousand others have, in systematic works, or in essays scattered through the annals of the science, labored to shed light upon the nature of gun-shot wounds, and to improve the

practice. Of those that have fallen under our notice, we may designate as worthy of special regard, the works of Guthrie, Hennen, Jobert, and Blandin; the two latter had ample opportunity for observation during the bloody scenes of the modern revolutions of Paris, and did not fail to avail themselves of the facilities afforded by well organised hospitals, for a faithful record of their observations. In regard to Hennen's Military Surgery we cordially endorse the complimentary notice of the "London Medical and Surgical Journal," "it is a work of supererogation for us to eulogise Dr. Hennen's Military Surgery, there can be no second opinion on its merits."

It is somewhat remarkable, that neither our struggle for independence, nor our subsequent wars, have contributed much to the improvement of military surgery, at least, we do not remember any original or elaborate work from these sources.

To the numerous authors, already alluded to, we have now to add the name of the distinguished Professor of Transylvania. As his professional career has been passed in civil life, where comparatively few cases of gunshot wounds have afforded him the opportunity to study their nature and treatment, we naturally anticipate that he is induced to write, for the purpose of directing attention to some important matter, which he supposes has escaped the renowned military surgeons, who have cultivated this branch of surgery on an extended field, amid the carnage incident to the conflict of powerful armies. Such will appear to have been his purpose as we proceed. We have taken the liberty to associate with the paper, now before us, an article published by the Professor on the same subject in the "Transylvania Journal of Medicine," etc., 1828, with a view of presenting to our readers, at one glance, all that the Professor has written in regard to this important class of wounds. The present paper opens with the following unqualified declaration:

"Every expression of opinion by authors upon the nature of gun-shot wounds, leaves the impression upon the mind of the reader in behalf of the peculiarity, which involves sloughing of the fibres in the passage of the ball." The same position was assumed by the Professor in 1828, speaking of the liability of gun-shot wounds to run into violent inflammation followed by sloughing, he says: "Hence the surgical axiom that gun-shot wounds must slough, suppurate and heal by granulation. In observance of these views, the propriety of preserving the orifices of the wound free and open is inculcated; while great solicitude is experienced that the whole tract of the ball may be kept open."

This position is not correct in all the extent here given to it. It is true that the authors acknowledge, as a general rule, that gun-shot wounds will suppurate and heal by granulation; yet, many of them confess that they have witnessed the healing of such wounds by the first intention, and inculcate the propriety of endeavoring to effect this desirable end in all favorable cases. S. Bell admits that such wounds do sometimes heal by first intention, but says they "rarely admit of being united by the adhesive inflammation."*

Dorsey confesses that most gun-shot wounds "must be allowed to suppurate," but declares that these wounds "do often heal by the first intention."†

Lebert says: "Des trajits des plaies par d' armes à feu guirissent quelquefois en partie ou en totalité par premieré intention."‡

M. Cloquet says, if the wound is not complicated by hemorrhage; if no foreign substance is present, or is removeable with facility, etc., "on peut tenter la réunion

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* First Lines, 1808, p. 70.

† Surgery, vol. i, p. 52.

‡ Arch. Gen. de Med. Tom. vii, p. 341.

par premiére intention de la base des lambeaux, et leur sommet seul suppure dans ce cas."*

Roche, Sanson, and Lenoir, after alluding to the healing of gun-shot wounds, say: "des plaies résultant du passage de balles de fusil à travers les parties peuvent guérir de la méme maniére. Des faits de ce genre ont été observé par Hunter et par Larrey." They also note the case of a young man in July, 1830, who "avait eu la cuisse traversée de part en part par une balle, et chez lequel les orifices sentiment du trajet ont suppuré, de telle sorte que la guérison a été compléte dans l' espace de quelques jours."†

Bauden says: "La plupart des coups de feu qui n'ont lésé que les parties molles, en ne laissant au milieu d' elles aucun corps étranger, quérissent sans suppuration profonde. Les ouvertures d' entreé et de sortie se ferment par le developpement des bourgeons charnus, et se cicatrisent ensuite comme si la plaie provenait de l' application d' un cautére ou d'un moxa. Les escarres qui tapissent te trajit disparaissent dans ce cas par de voie de la résorption."‡. The same author while combatting an argument in favor of debridement; viz.: that it facilitates the escape of extravasated blood, says: "La force d' asorption sera assez active sans qu' il faille aider à la nature toujours si puissante en parille cas."§

Guthrie says: "An idea is entertained by some, that the whole track of a gun-shot wound must suppurate, and a slough of dead matter be thrown off; but this is an erroneous opinion, taken more as a necessary than a positive fact," etc.‖

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* Dic. de Med. 1827.

† Pathologie Medico-Chirurgicale, Tom. iii, p, 411.

‡ Clinique des Plaies D'armes a Feu., p. 35.

§ Ibid, p. 36.

‖ On Gun-Shot Wounds, p. 61.

M. Jobert says: "On a conseillé de réunir, par preniére intention, certaines plaies par armes à feu, celle de la face, par example. Hunter et plusieurs chirurgiens Anglais ont soutenu avec chaleur ce mode de traitement, et ont fait un pompeux éloge de tous ses advantages, parfois méme de ceux qu'il n'a reellement pas. Il est de fait, cependant qu'on a réussi assez souvent en se conduisant comme ils l'ont indiqué, surtout dans les cas où la contusion était modéreé. J'ai pet moi-méme, sur les blessés de nos sanglantes journeés de juillet constater la vérité des observations des chirurgiens Anglais," etc.*

The authors generally regard adhesion by the first intention as exceptional, while with Professor Dudley it constitutes the rule. We leave to our readers to determine by observation, who is in the right. Having had the fortune to receive our first instruction from Professor D. we pursued his practice, with implicit faith, until taught by experience, that no single remedy, however valuable, should be relied upon, in the ever varying phases of complicated wounds, to the exclusion of others not less serviceable. We have never failed to resort to the bandage, when the situation of the wound would permit us to avail ourself of the benefits it affords; and we have seen several gun shot wounds closed by adhesive inflammation under its influence; but we must candidly confess, that much the larger number would suppurate, in spite of the vaunted remedy; the former were without serious complication, easily freed from all foreign substances, and in persons of sound constitution. We do not pretend to be as expert in the use of the remedy as Professor D., though we learned the mode of applying it under his instruction, and labored hard to acquire a practical command of its magic power, and we suppose his extraordinary success

* Plaies D'Armes a Feu, p. 35.

is fairly attributable to the adroitness with which he adjusts his favorite remedy. We know that when others fail in cases similar to those which he has relieved without difficulty, the never failing reply is—"my friend, the fault is with yourself—you did not apply the roller properly."

The Professor alludes in very proper terms to the influence of the general health on gun-shot wounds. These, like all other injuries, respond to the condition of the system, and heal kindly or take on vicious action, as the constitution may be sound or impaired. Heister's* directions for the general management of the subjects of such wounds are very judicious, and correspond very accurately to the course pursued by Professor D. Suitable caution is also given against injudicious interference; "neither is unwise medication, nor injudicious evacuation less fraught with mischievous consequences in the treatment of gun-shot wounds."

In one particular the Professor's remarks in regard to the constitutional treatment that may become necessary in the management of many cases of gun-shot wounds are exceedingly defective. The whole class of tonics is discarded by the Professor and no substitute is presented calculated to arouse, in time of need, the sinking energies of the system, or to obviate the extreme debility so frequently met with after serious gun-shot injuries. We believe that almost the whole mass of the profession agree on the vast importance of this class of remedies in cases of great exhaustion, as from protracted suppuration, and Professor D. stands almost or quite alone in repudiating every article that belongs to it in such cases, as well as in all others. Tonics are nowhere to be found in all his materia medica; quinine, iron, and everything of

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* Surgical Cases, pp. 9, 105, etc.

the kind are excluded as inert or hurtful, and nature is left to struggle alone, unarmed, with exhausting disease, and to sink with debility or rally only after weeks of intense suffering and danger, when a few portions of a suitable tonic, seasonably and judiciously administered, would at once turn the scale in favor of life and restore the patient to the enjoyment of health. It is not a little surprising that one who perceives so clearly, and acts so energetically where the system rises above the healthy action, should suddenly stay his hand and leave this same system in exhaustion, without succor, to wrestle with its enemy when depressed as far below, as it was previously above, the healthy point. The demand for sustaining treatment, in certain cases, appears to us to be quite as obvious as the requirements of depletion in others. We cannot deem it necessary to adduce examples in illustration of a matter, about which no one can possibly err who is not so firmly bound to the car of a single opinion, as to be hopelessly beyond the redemption of a change.

In the essay under review, the Professor proceeds to illustrate the fact that engorgements "may be of constitutional or local origin," and remarks:

"But the diversity in the causes productive of engorgement must naturally call forth the exercise of wisdom in the selection of the appropriate remedy."

This is all very well, but the reader is left to "the exercise" of his own "wisdom," as no aid is afforded him "in the selection of the appropriate remedy," nor are any rules given which would indicate the use of one or forbid a resort to another; indeed, there is nothing here but a hint at something very desirable, unaccompanied by the slightest effort on the part of our author to furnish the desideratum. But if the one idea treatment, which our readers will soon perceive pervades the paper before us, be correct, what necessity can there be for "the exercise of wisdom in the selection of the appropriate

remedy," or what influence can be exerted in the selection by "the diversity in the causes productive of engorgement?" If a single remedy be appropriate under all circumstances, then all thought and reflection on the subject are utterly useless, and the labor of analysing causes is a wasteful expenditure of time. Where no choice is to be made no investigation can be required.

Mingled with illustrations of the wonderful activity of the absorbent system, (too familiar to the profession to need particular notice), in removing dead as well as living matter, we find the following paragraph, containing the most prominent and important feature of the essay before us:

"Mechanical pressure may be so adjusted as to prevent engorgement, however profound the injury, thereby presenting an absolute and insuperable bar to all mischievous reaction. That fallacious sentiment, so long cherished and ardently urged, wherein the roller is denounced by a large majority, embracing authors of the highest order, cannot resist the power of truth and the triumphs of experience."

In the Professor's former article on gun-shot wounds he asserts, in broad terms: "No surgical author, with whose writings I am acquainted, has suggested the bandage as an appropriate application in gun-shot wounds."

This cannot be regarded otherwise than as an extraordinary confession, since there is scarcely a writer in this department of surgery who does not, in some way, rank bandages amongst the remedial agents appropriate to the treatment of these wounds. Indeed it is scarcely possible to conceive that surgeons who had freely used the bandage in other wounds, prior to the discovery of gunpowder, and who were familiar with its beneficial influence, would at once abandon it in the management of gunshot wounds. True, they did not wholly rely upon it to effect a cure, and we shall hereafter show that it would

not then have been, nor is it now, proper to rely on the bandage in all cases. Valuable as we esteem the bandage, we think it will be conceded, by almost all, that there is much to be done in the management of gun-shot wounds besides the proper application of the roller.

If the roller has been ardently denounced by "a large majority, embracing authors of the highest order," we confess we do not know who these authors are. We are fully aware that the abuses of this remedy have been very properly deprecated by many in the warmest terms, and a few may have been driven by these abuses into the extreme of repudiating it altogether; but there is a very material difference between decrying the misuse of a thing and denunciation of the thing itself. We think our readers will be speedily satisfied that the assertion is unfounded, and that Dr. D. does not stand alone in appreciating the value of the roller, save in the excess of his admiration of its miraculous properties.

We may remark that a resort to bandages is regarded by many of the authors so much a matter of course, that they do not allude to them in very direct terms, but seem to take for granted that their value is so well established and so universally conceded that an argument in their favor would be out of place, and that no one will undertake the management of gun-shot injuries without the aid of these truly useful adjuvants.

But let us see if the application of the bandage to gun-shot wounds has not been taught explicitly by others.

Heister says, "the first intention is to use our utmost endeavors to prevent or assuage the tumor and inflammation." This is to be accomplished by dressing "with lint dipped in spirits of wine warmed, covering it with compresses wet with the same liquor." This venerable author wrote elaborately on the use of bandages and says, "they are often medicines of themselves, being the sole application for the cure of the disorder, as in many frac-

tures, luxations, hemorrhages," &c., and "to all the several parts and disorders of the body;" he declares that "recent wounds themselves will very often unite without anything more than dry lint and with a fitting bandage."*

He dressed gun-shot wounds after the example of Magatti and Belloste "but once in twenty-four hours, and many but once in two days, without taking off the whole *bandage.*"† He gives particular directions for the application of "longitudinal compresses and bandages in wounds of fire-arms, accompanied by fracture,"‡ &c. The same author relates the case of a soldier who "received a musket ball in his left side, just above the heart, passing out again at the back, between the third and fourth rib, by the scapula." This patient recovered in a few weeks. "The bandage applied the whole time was the napkin about his body, fixed by the scapulary bandage," &c.§

John Bell says: "But it is particularly to be observed that in gun-shot wounds, and other bruised wounds, though it would be imprudent to sew the parts, since it is impossible that they should altogether unite, *yet the gentle and general support which we give by a compress and bandage*, prevents them from separating far from each other, unites the deep parts early, and lessens the extent of that surface which must naturally fall into suppuration."‖

Boyer declares, "Le premier parsement doit etre fort simple et tres-doux. On remplit la plaie de charpie mollette qu'on soutient avec des compresses et un bandage qui ne doit pas etre trop serrè."¶

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*Gen. Sys. Sur. vol. i, p. 53—vol. ii, p. 295, &c.

†Heister's Cases, p. 59.

‡Ibid, p. 62.

§Ibid, p. 76.

‖Principles of Surgery, 1812, p. 30. The original was published in 1801.

¶Maladies Chirurgicales, vol. i, p. 508.

Bauden, giving an account of his change of opinion in regard to the supposed necessity for debridement, says: "Les blessures furent panseès simplement; un bandage roulè et contentif constantment arrosé d'eau froide fut appliqué sur le membre dans toute son entendue; * * * la guèrison s'opèrait avec calme et rapiditè."*

Liston believes that suppuration is almost inevitable, but says: "it will be necessary to afford sufficient support to the parts by bandaging."† Nelaton embraces similar views‡

Hennen advised the use of the roller as the most suitable dressing on the field, and this, if found secure, was not removed until after the lapse of several days, depending on the season, climate, and the constitution of the individual or the peculiarity of his wound. He also commends the roller in edema, a frequent consequence of gun-shot injuries, and often complicated by pressure of the lymphatics, or injury to the nerves. In these cases the roller is aided "by gentle friction with moderately stimulating embrocation, succeeded by the local shower bath."§

The same distinguished surgeon declares: "A firm elastic bandage is an indispensable assistant in the cure; the motions of the ribs are not only restrained, but the parts are powerfully supported by its application; if fracture has taken place in any of the bones we have no other means so perfect for retaining them in their place; if a slight degree of emphysema has occurred before we see the patient, we thus prevent its further diffusion, and if we are called on before it takes place we may prevent its occurrence altogether. The extent and tightness of the bandage should be such as to oblige the patient to perform respi-

*Plaies d'Armes à Feu, p. 11.
†Surgery, p. 182.
‡Military Surgery, pp. 48, 71, 168.
§Pathologie Chirurgicale, vol. i., p. 206.

ration as much as possible by the aid of the diaphragm, and of the abdominal muscles."*

The following extract from the same author covers at once, with great force and brevity, almost all the curative properties of the bandage: "In the application of the bandage, however, nicety is essential, as on its due employment the removal of existing evils and the prevention of many more entirely depend. As a support to parts requiring approximation or separation; as preventing the insinuation of matter, blood, or serum among the interstitial spaces; as expelling them and preventing their accumulation when formed; as repressing redundant or protruding growths, or stimulating their absorption, and finally as retaining other applications in contact to the parts; too much attention can scarcely be paid to the application of the roller, and yet candor compels me to say that foreigners of almost all countries excel us in this fundamental part of our art. Our young students may study, philosophise, and reason well; but neither books, reflection, nor arguments will teach the application of a bandage without repeated practice."

The most judicious medical treatment and the ablest surgical operation will fail, if not assisted by good bandaging, and errors in both will soon be recovered, if a proper system is adopted."†

The only difference, apparently, between this deservedly celebrated military surgeon and our author, consists in the exclusiveness of the latter, adopting the bandage as the sole remedy, while the former, gives to it its proper rank without neglecting other agents of equal, and, on many occasions, of superior importance.

A number of cases are detailed in Professor Dudley's

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*Military Surgery, p. 295.

† Military Surgery, p. 77.

essay with more or less brevity in illustration of the treatment proposed. The first is that of a young man who was accidentally wounded "while he was getting over a fence." "The ball entered midway in the left thigh, and lodged on the outer part of the limb when it was distinguishable to the touch. Its position among the extensor muscles rendered its removal necessary." The dressing consisted of a roller embracing the whole limb from the toes to the hip, with a compress over the track of the ball. The dressings were kept wet with warm spirits during the first four days. "On the tenth day from their application, the dressings were all removed, when the limb presented a healthy appearance, the wound having healed by the first intention."

Case 2. "A man received a gun-shot in the upper and back part of the thigh, the ball ranged downwards and passed out on one side of the knee; thus traversing the whole extent of the thigh." This wound was dressed and treated as in the preceding case. "On the tenth day, the first and only dressing in this case was removed, and the patient dismissed well."

The narration of this case is broken by a eulogy on the miraculous powers of the roller, and a brief statement of the Professor's views in relation to "the virtues of cold water dressing," of which nothing was heard "until after the battle of Waterloo." The Professor says: "My own experience is altogether in behalf of warmth united to moisture; the injury resulting from reaction, when it is applied cold, is thereby avoided; and spirit is preferred in all cases of a doubtful character to water, because of the increased evaporation from the surface of the bandage, while subcutaneous absorption is promoted thereby."

A great deal was heard of cold water dressings long before the battle of Waterloo. As remarked by Hennen, the history of the employment of water as a dressing to wounds is curious and instructive. It was a common re-

medy, and held in high esteem among the Italians, immediately after the discovery of gunpowder, although its virtues were attributed to the mysterious and senseless incantations, at that time, believed to be necessary to impart to the simple fluid healing properties. Blondus published an essay on its efficacy, at Venice, in 1542, which was followed by similar works by Fallopius, Palatius, Joubert and Martell—all published before the beginning of the seventeenth century.

Joubert reprobates the resort to incantation, and prescribes the water: "sans aucun pronouncement de verbis metaphoriques, ne sur icelle, ni sur les drapeaux et charpie." He gives the following opinion of the advantages of the water dressing: "Je pense qu'un des principaux moyers pour haster le geurison des playes est de les tenir bein nettes; or est il que l'eau les nettoye et deterge bein fort. L'eau par sa froideur empesche l'inflammation, tempere l'ardeur des humeurs," etc.*

We may venture to give our own experience, without presumption when we declare that we do not flatter ourself that it is to outweigh that of our venerable author. We have not found either the warm or cold dressing applicable to every case, and we habitually make the preference to depend on the sensation of the patient, nor have we ever failed to derive most advantage from that which imparted the most agreeable sensation to the sufferer. Sometimes one would prove most soothing, while the other inflicted excruciating pain; in a different person, and a similar wound, we have found a complete reversal of these things.

But to return, a case very similar to the one, we have quoted, is reported by the Professor in the first essay already alluded to; the ball entered "the inferior part of the thigh, and came out near to, and on one side of the knee."

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* Apologie pour les Chirurgiens. 1601.

In this case the dressings were removed on the eigth day; when the wound was found perfectly healed.

Case 3.—"The ball entered the integument in the epigastrium, coursed directly downwards, and passed out in the immediate vicinity of the right external abdominal ring; reëntered and opened the scrotum extensively on that side; and lastly inflicted a large but superficial wound on the inner part of the thigh."

A thick compress was applied to the whole extent of the wound, and secured by a properly adjusted bandage. "Upon the removal of the dressings, eight days after they were applied, the wound had healed throughout by the first intention." The Professor adds: "Yet doubtless they were instrumental in the development of a large abcess, immediately adjacent to and in advance of the ileum." It is remarkable when a truly great intellect seises upon a few important principles, whether true or false, how pliantly they are bent to his will, and forced to apply, wherever it is desirable to their master. The Professor calls to his aid the disputed principle, that inefficient compression develops hemorrhagic excitement, but the bearing it has in the connection in which it is placed we do not exactly comprehend. We give our readers the benefit of the whole paragraph:

"Inefficient compression, whether made by the accumulation of blood in the wound, or from the application of dressings, develops hemorrhagic excitement, and causes thereby an alarming loss of blood from vessels which under other circumstances would elicit no attention: and although by the aid of compression, union by the first intention was effected in this case, yet it is doubtful whether deep seated abscesses can always be prevented by the same means, where the wound involves parts that are necessarily in motion, as connected with the great vital processes."

The Professor thinks this cannot be urged as an objec-

tion to the use of compression, since "recovery is notwithstanding more speedy, more certain, while the confinement is divested of much suffering through its agency."

Case 4. A collegiate pupil was wounded by the accidental discharge of a rifle. "The ball entered a little behind and below the hip; passing deep among the abductors of the thigh, it lodged immediately in the vicinity of the rectum, from whence it was extracted without loss of time." After thoroughly evacuating the bowels, compresses were applied and firmly maintained in place by the T bandage and roller. The bowels were moved by oil on the sixth day; three days afterwards "the entire restoration to health of the whole wound rendered farther dressing unnecessary."

Case 5. The ball "passed between the urethra and corpora cavernosa, opening extensively those three bodies; thereby giving a free passage to the contents of the bladder; with blood from the cylindrical bodies. The ball then entered the left scrotum, and left bare the testicle and spermatic chord. In its course it removed a large portion of skin from the front of the left hip; and, lastly, entering the outer part of the wrist, it passed between the skin and extensor tendons of the fingers to the styloid extremity of the ulna, where it made its final exit."

The usual dressings were applied. "At the expiration of a week, all the wounds, with the exception of that on the hips, were closed, and at the removal of the second dressing, twelve days from the injury, he was well."

This case was reported by the Professor in 1828, and the result of the case as there given is: "the wounds of the wrist, cavernous bodies, urethra and scrotum healed by the first intention, *except a slight suppuration from the latter.*"

Case 6. A school boy "lost the ends of the fingers of one hand." Dressed with adhesive plaster and the roller. Those fingers which retained sufficient integument to

cover the extremity of the stump, healed by the first intention; the others suppurated and healed by granulation, "without anything bearing an approximation to sloughing."

Case 7. "The ball (of large caliber) entered the right thigh and opened the femoral artery, causing a gush of arterial blood, which projected several feet from either orifice. Passing, in its course, behind the bone of the left thigh, it inflicted a most distressing wound upon the left femoral nerve." The usual dressings were applied. On the eleventh day no pulsation was discovered in the posterior tibial artery; three days afterwards, the fourteenth from the time of the infliction of the wound, the anterior tibial artery was examined, and gave satisfactory evidence "of healthful arterial circulation."

The dressings were removed on the eighteenth day, "when the very agreeable evidence was set forth, of union by the first intention having been completed, with the exception of a little integument, throughout the wound."

The Professor is evidently not as careful as he should be, in regard to dates, thereby leaving points to which the captious may, hereafter, take exception. In the account of this case, published in 1828, it is stated that pulsation was discovered on the twelfth day, and "on the fourteenth day the entire bandage was removed from the limb," and the wound found as described in the present essay.

These discrepancies may appear to be slight matters, and we feel confident that they may be satisfactorily explained, but the time will come, when they will be pointed to as evidence of want of care and accuracy, and thus throw discredit on the whole case. The discrepancies are nothing to those who know the venerable writer, and appreciate his nice sense of honor and sterling integrity, but posterity will not regard a difference of four days in the statement of the same case, by the same gentleman,

as a slight matter; especially, in a case so remarkable as the one before us.

Although the wound in the left thigh healed kindly, yet the patient suffered intensely from irregular muscular action, during several months, and as stated in 1828, he had not "entirely recovered the third year after, when he left this country."

"Similar distressing consequences to wounded nerves," have been under the charge of the Professor very often. Three cases are briefly stated, in illustration of these wounds. A lady, from St. Louis, received such an injury from a lancet, in being bled, from which there resulted "an alarming affection of the arm, head, chest and spine."

In another case, a lacerated finger, amputation was resorted to after much tedious suffering. The operation was not followed by relief, and "it became necessary for the gentleman to use a considerable amount of evacuant medicine, to relieve himself from the effects of morbid secretion." Would not the same treatment have accomplished the end without a resort to amputation?

The third case was that of "a gentlemen who was bitten on the hand and wrist, by a dog." It was only after months that blisters, severe regimen, and evacuants "subdued the pains so far as to rely upon the efforts of nature to restore his health."

The material, of which the gun-cap is composed, is more unfriendly to a wounded surface than a leaden ball, and the Professor declares that wounds inflicted by their explosion, "may be classed among the most critical of those which are of similar extent and locality, the product of fire-arms." Two cases are alluded to, in each of which, a small piece of the cap passed through the cornea and lodged on the anterior surface of the iris. In both cases the wound of the cornea healed by the first intention, but it was indispensable to the preservation of

the eye, to remove the foreign substance by an operation similar to that for cataract.

To illustrate Prof. D.'s practice in gun-shot wounds, involving fracture of the bone, the following cases are given.

Case 8. A rifle ball "carried away the major part of the magnum, and lodged deep among the muscles of the thigh. After removing isolated fragments of bone, the usual dressings were applied. On the tenth day "the interior wound was occupied by organized matter," and on "the removal of the second dressing, a cicatrix covered each orifice." The wound in the thigh was found healed on the removal of the first dressing.

Case 9. "A gentleman received a pistol shot, which shattered the humerus a little above the elbow and separated its condyles from each other." The fractured bone having been properly adjusted, compresses and the roller were put in requisition in the usual manner, "and at the expiration of a month the use of the arm was restored."

The Professor remarks: "the intelligent of the profession are doubtless surprized that, in this case, splints and machinery to control muscular contraction and prevent deformity, should be overlooked." We doubt not our author is correct, for while every surgeon seeks to adjust the bandage to such wounds with as much nicety as possible, prudence would dictate the additional security guaranteed by properly adjusted splints. We tried the practice of relying alone on the bandage, but were finally compelled, under the guidance of experience, to withdrew a portion of the confidence we had been taught to repose in the bandage alone, in such cases.

Case 10. A rifle ball, of large size, "entered the scalp on the anterior and lateral portion of the head, of the right side, and fractured the parietal bone. Fragments of bone were removed, and the wound dressed with com-

press and roller, and healed by the first intention." A few months after recovery he became the subject of epilepsy. A free incision was made through the scalp, "the dura mater, with the interior membranes was opened to the extent of two inches, when, by the aid of forceps, a fragment of bone, one inch long, by half that width, was drawn from deep within the substance of the middle lobe of the cerebrum." The wound healed by the first intention, and there was no return of the epilepsy.

In the first of the Professor's essays he remarks:

"The very common practice of amputating limbs, because of compound fracture by gun-shot wounds, will be suspended when the bandage is properly appreciated. In several cases within my own practice, I have reduced them to the condition of a simple fracture, and have thus managed them with the same facility as in other instances where similar violence has been done in a different way."

Now, we do not believe the practice here spoken of to be common, while we know the bandage was properly appreciated in such cases, and the practice inculcated by the Professor was pursued long before he either adopted or taught it.

In 1707, Heister* met at Brussels several soldiers who had been severely wounded in the bloody action of 1704, near Shellenberg, in Bavaria, and notwithstanding there were compound fractures, and some deeply affecting the joints, every means had been tried to effect a cure, and these efforts were persevered in for a period of three years, before a resort was had to amputation.

The same author gives particular directions for dressing such wounds, not differing materially from the practice pursued by Professor Dudley. "When the wound is first dilated, cleansed, and freed from the splinters of the bone, and other heterogeneous bodies, particularly in

*Cases, p. 40.

the upper arm, the shattered bones are again glued together, as in simple fractures, the wound being dressed with lint and vulnerary ointments, and, lastly, with the vulnerary balsam, and a plaster laid over all, but not for both ends to meet, and compresses laid longitudinally round the fractured part, with proper splints and bandage as in common fractures."*

J. Bell gives directions for dressing such wounds without amputation.† He declares that "a limb having the great bones broken, by a musket ball piercing the limb, may be saved." He advises immediate amputation only when the limb is so crushed that an attempt to save it would endanger life, and when, if saved, it would be distorted, and rather an encumbrance than a help.‡

Liston takes a correct view of this matter. He says: "He [the surgeon] must not proceed with his knife when there exists even a slight chance of preserving the limb."§

M. Jobert has succeeded in saving limbs, after amputation had been proposed, under the following circumstances:

1. Penetrating wounds; with fracture of the elbow-joint.

2. Comminuted fracture of the head of the humerus, without destruction of the soft parts.

3. Fractures of the wrist and hand.

4. Comminuted fractures of the thigh, without disorganization of the soft parts.

5. Penetrating wounds of the knee-joint, with or without fracture.

6. Comminuted fracture of the leg, when the soft parts are not too much torn, bruised, or destroyed, notwith-

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*Cases, p. 62.
†On Wounds, 1807, vol i., p. 158.
‡On Wounds, vol. 2, pp. 174, 175.
§Elements of Surgery, p. 182.

standing there may be several wounds and fragments of bone.*

The Professor declares that he has "long since been convinced of the error propagated in the profession, regarding the peculiarity these gun-shot wounds." In regard to their distinctive character, there does not appear to be much, if any, disagreement between Prof. Dudley and other authors. Since the time of Paré, gun-shot wounds have not been regarded as differing from other wounds, "except in the degree of violence done the wounded surfaces."

Heister declares that they differ from incised wounds in as much as the parts are "more shattered and torn.†"

Hennen's definition is alike comprehensive and accurate: "A gun-shot injury is a violent contusion, with or without solution of continuity, suddenly and rapidly effected by a solid body projected from firearms; and nothing more."‡

The Surgical Lectures of Sir A. Cooper are said to have excited the highest degree of admiration by "the rich tissue of authentic facts and legitimate deductions which spread itself over every page in the work, unsullied by any predominating theory or hypothesis which, like a vapory atmosphere, distorts every object seen through it." We regret that we do not feel authorised to pronounce the same eulogy on the essay before us—the facts are doubtless authentic, and they are either extraordinary or common-place, but they are not sufficiently numerous or varied, nor of a character to serve as a secure basis for an exclusive practice applicable to gun-shot wounds under all circumstances! The bandage theory every where sheds a hazy atmosphere, that will not

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*Bulletin de l'Académie, tom. xiv., pp. 64, etc.
†Gen. Sys. Sur. vol. i, p. 51.
‡Military Surgery, p. 48.

permit a clear perception of all the phases presented by this species of wounds, or allow a recognition of the multiplied accidents that do, and must inevitably, occur under any plan of treatment, and which, in the estimation of the first men of the profession, call for something more than the mere support of a bandage.

The unpracticed reader of Professor Dudley's essay will imagine that he has found, in the roller, a sovereign remedy for every variety of gun-shot wounds, from a simple abrasion of the skiu to a compound comminuted fracture of the bone, etc.; but we ask our readers to turn again to the cases reported, and give them a careful examination, when they will be satisfied that they are either selected cases, or that Professor D. has been wonderfully fortunate in meeting only with such as were most favorable to adhesive inflammation. In every case the ball passed out or was readily removed, and with it all foreign substances which might, and probably would, have occasioned suppurative action.

He who goes forth among diseased actions, relying alone on the practical views, inculcated in the paper before us, is doomed to sad disappointment, and cannot but be wofully at a loss for information, not to be found in this "full record" of the Professor's experience. Where is the instruction in regard to those cases where debridment is required? In what manner is the examination to be conducted? What cases require immediate amputation? Should gangrene occur what treatment is demanded? At what point shall the tonic supplant the antiphlogistic treatment? What is to be done in cases of superabundant, deficient, or unhealthy suppuration? For consecutive abscess, marasmus, colliquative diarrhea, etc.? The essay is in fact defective in information in regard to all the consecutive phenomena, accidents and complications which, in spite of the best directed efforts of the surgeon, so frequently supervene in gun-shot wounds.

These injuries are to be treated on rational principles, and there are none that require the exercise of a sounder judgment; the bandage is indeed a valuable remedy; but, if applied to every case, and wholly relied upon in all, it will be converted from a blessing into a curse. Gun-shot wounds present a variety of phases; there are none in which more violence is done, or in which complication is more common, and the experience of the ablest and most indefatigable observers has demonstrated the absolute necessity for a corresponding modification of treatment: at one time, depleting; at another, tonic; at another, soothing; if the wound be irritable, stimulating; if inert, gently escharotic; if the granulations be too exuberant, the appropriate means must be addressed to that condition. Possibly it may be said that we have no right to dictate how far the author shall go in communicating his professional views; certainly we have not, nor should we lay so much stress on the very imperfect account Professor Dudley has given of this class of wounds, but for the purpose of cautioning the young reader that there is much to be learnt in relation to gun-shot injuries, besides what is found in this essay.

In the first announcement of these essays we were told they were to "present a full record" of the Professor's extensive experience, but the subsequent qualification prepared us for a mere abridgement of his views, but certainly did not lead us to anticipate the total omission of many of the most common and important features of the wounds of which he undertakes to tread. It is to be presumed that the Professor has met with cases of gun-shot wounds where foreign substances were retained in the wound, and where accident, complicated and rendered difficult their management, and to complete the record of his experience, some account of these cases and the results of his treatment were necessary. To base a general practice on these few and peculiar cases, would violate one of the

soundest principles of medical logic, so clearly stated by Sir G. Blane: "It is only by computation, founded upon large averages, that truth can be ascertained, and hence the danger of founding a general practice on the experience of a single case or a few cases." In the Professor's first essay a few "cases are given by way of contrasting the effects of the ordinary treatment with those of the bandage." We are not informed in what this "ordinary treatment" consisted, but, aside from this, how unfair is the comparison? In these cases the balls, and probably other foreign substances, were retained in the wounds, while in all the cases given to illustrate the superior efficacy of the bandage, the wounds were entirely freed from all such causes of irritation. It is assuredly unfair, and especially averse to the spirit of medical philosophy at this day, to contrast the results of different treatment, unless there be a striking similarity in the cases submitted to the test. It would be quite as fair to select only the cases that have run into suppuration under the influence of the bandage and adduce them to establish the inutility of that valuable remedy. There is not a remedial agent at the command of the profession that might not be banished from use by the same flimsy argument. The truth is, there should be no selection of cases on either side, no contrasts between extremes; let the failures be reported with the more fortunate results, and the profession will be able to arrive at a correct conclusion in regard to the value of different modes of treatment.

In allusion to these unfortunate cases the Professor remarks there can be very little question but that they "were susceptible of cure in a few days by the bandage, "yet he immediately afterwards admits that two of the three cases "were constitutional in the origin of most of their symptoms, after the first effects of the wound subsided. Now how the bandage could have obviated these symptoms, of constitutional origin, we cannot perceive;

and highly as we estimate the remedy, in its legitimate sphere, we do not believe that it possesses any such wonderful power. Our author himself admits, in the same article that "partial suppuration supervened in these cases," how then are we reasonably to expect the bandage to effect "a cure in a few days."

There are two errors, the one or the other of which has displayed itself conspicuously in every age of medical science, viz.: first, a disposition to confound many conditions of the system totally and radically different, and thereby to limit the curative resources of the profession to a few simple agents, under all forms of disease. The second error is equally objectionable, as it runs to the opposite extreme, and consists in a species of refinement that engenders shades of complexity in all things, and divides the treatment of disease into an endless variety of means, compared with which the written signs of the Chinese language are simplicity itself. In a practical point of view, our author and some of the ancients occupy the two extremes. We verily believe that the former has applied the bandage, calomel, and tartar, to more purposes, and varied conditions, and probably effected more with these simple agents, than any person who now lives, or who has heretofore recorded his experience; at the same time, we doubt not, he would have accomplished infinitely more, if he had been unshackled by self-imposed restrictions that were unnecessary. The prominent errors alluded to above, naturally lead to the same practical result. While the refined systems were well calculated to introduce inextracable confusion, and to cast so many difficulties in the path-way of truth, that the inquirer, however ardent his temperament, was not unfrequently discouraged and driven from the prosecution of a study which appeared to him to be too complex to be comprehended or useful; the other system, in its simplicity, tends to repress observation, and to limit the laborious effort of

searching into the hidden and often almost inappreciable differences of morbid phenomena, that must in the nature of things demand a corresponding modification of treatment.

In medicine and surgery, as in all the practical affairs of life, those who occupy a just medium between the two errors are in the right path—while they investigate as minutely as possible all the varied forms of disease submitted to their observation, they abjure excessive, speculative, and impracticable refinement, and are ever ready to assign to each remedy its appropriate place without the deification of any particular one. C.

Art. VII.—*A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition.* By P. Cazeaux, Adjunct Professor in the Faculty of Medicine of Paris, etc., etc. (Adopted by the Royal Council of Public Instruction.) Translated from the second French edition, with occasional notes and a copious index, by Robert P. Thomas, M. D. With one hundred and seventeen illustrations. Philadelphia: Lindsay and Blakiston. 1850.

Of the making of books there seems to be no end. Solomon complained of this tendency as one of the fixed facts of his day, when the mode of reproduction bore about the same relation to that of the present, that the movements of the ox do to the facilities of the magnetic telegraph. But there are consolations for the great extension of the business. Abernethy consoled himself for the immense increase of physicians in his day with the fact, that though physicians had greatly increased, diseases had increased in an equal ratio. Readers too have increased in a fair ratio with the increase of authors.

It is somewhat strange that upon a single department of practical medicine, that of obstetrics, a department consisting of many facts, and of a few principles, there

should be such an endless variety of books. The literature of obstetrics is as prolific as though its exclusive province were to bring forth books, and we have every conceivable variety of presentation, monstrosities, malformations, abnormal as well as normal works, and not a few that show indubitable marks of having passed through minds of very small pelvic capacity.

We do earnestly wish that some one, well qualified for the work, would undertake to compress all the essential and valuable matters in obstetrics, contained in a world of books, into one readable volume. A more acceptable service to the accoucheur could scarcely be performed, and it would be, in every point of view a most practicable enterprise. The various works which command the attention and confidence of the profession have an immense deal of detail that is common to the whole class, and each authoritative work claims public regard on account of some excellence in comparatively confined particulars. Now we hold it to be a very practicable thing to take what is common, mere routine detail, in such works as those of Francis Ramsbotham, Baudalocque, Velpeau, Rigby, Collins, Churchill, Cazeaux, and as many others as any one may choose to consult, and array, in their proper places, the peculiar excellencies of each, and compress them into one tangible, manageable bale of reading matter. Commerce would be in a confused perplexity with bags of cotton, but the hydraulic press has removed all that kind of trouble. A discriminating medical mind, of hydraulic power, would confer no ordinary benefits upon medical readers by an effort at the compression of obstetrical literature. It would be something of value to be able to find promptly, all the recorded facts observed by obstetricians, and all the essential principles of the practice of obstetricity, in a portable form. The importance of this may be, in some degree, appreciated by reference to the subject of Dr. Hewett's interesting paper in the

present number. In the case detailed in that paper, we have a malformation which, under almost all conceivable circumstances, must produce a fatal issue, after parturition. Yet, with the exception of Churchill, scarcely any popular author on obstetrics, even refers to such a case. It may be said that this proves the extreme rarity of this malformation, and while we admit the fact, we point to the rarity as a powerful reason why obstetrical teaching should warn practitioners against this danger. It is not the bold, jutting headland, the frowning cliff, nor the prominent reef that places the vessel in danger; the sunken, unknown rock, "not laid down in any chart," is the perilous one.

We give this merely as an illustration—examples might easily be multiplied to show the necessity of having every important particular, connected with obstetrics, gathered together in one volume, of easy access. There is no good reason why the excellencies of twenty good authors should be spread through twenty volumes, while it would be a possible thing to arrange them all in one.

These remarks are called forth by the necessities of the case, not in any spirit of fault-finding with the book before us. We, indeed, selected the occasion of having a work of the sterling excellence of this, for making the suggestions in the foregoing remarks. We preferred doing so over the work of Cazeaux rather than over such as may be easily found—those that are far inferior to it. In the multitudinous collection of works devoted to the propagation of human beings, and to the details of parturition, none, in our estimation bears any comparison to the work of Cazeaux in its entire perfectness, and if we were called upon to rely alone on one work upon accouchment, our choice would fall upon the book before us, without any kind of hesitation.

In all that constitutes a medical book of authority, in all that may aid inexperienced persons in perilous circum-

stances, in all that arms and equips an accoucheur for the performance of all his duties, we know of nothing superior to this work. The universal design of the author is to make himself a reliable pilot in every possible contingency, and his principles are uttered in the most lucid terms, and impressed in the most cogent manner. Take for instance his adoption of Nægèle's beautiful and all-sufficient simplification of Baudelocque's Chinese puzzle—the presentations. In Baudelocque's classification, we have one hundred and two distinct presentations enumerated; in the work before us this tangled web is reduced to thirty positions, and while the mind grasps these with ease, it is left free to gather other information, instead of cramming every chamber of memory with the refining of Baudalocque's presentations. This is but a solitary example of an excellence that reigns in every department of the work.

The original edition of this work has long been known to the profession, and wherever known has been highly prized. To those who are not familiar with its merits, we commend its invaluable chapters on embryology, a department of science in which the labors of Wagner, Kollicker, Leuckardt, Valentin, and Bischoff have effected a revolution quite equal to that made in electro-magnetism by the labors of Œrsted and the two Ampères. In our early medical studies, the philosophy of Generation bore no indistinct resemblance to Washington Irving's Ichabod Crane. It was loose, gangling, and perpetually ludicrous. Leuenhoeck's microscopic observations, looked upon then very much as Munchausen's works are by half grown men; Spallanzani's experiments with frogs, and Haighton's with rabbits, constituted the villages of the domain of the science; the country roads were travelled on the back of an animal that often fell by reason of the grievous loads it was made to carry—loads of such enormous burden, that one would suppose any beast of bur-

den would have died under them, even if it had possessed a much larger share of vitality than our carrier ever did. The "ship of this medical desert," to which we allude, was named SYMPATHY. We were once in the habit of loading the animal ourself, and often wondered then, at a time when we *suspected* it of some vital power, how it moved under its loads. It has strayed away from medical science, and has ceased to be a carrier among philosophers. It was very patient and expansible, and is supposed to be in active employment among Mesmerizers, biologists, and fortune tellers. It feeds upon such provender, as those things furnish, with great greediness, but starves to death under the eye of observation, and the accumulation of truth. The labors of such men as Wagner, Leuckardt, and Bischoff were very fatal to the life of SYMPATHY, and under their assaults it made a seasonable retreat, and will never again be used by medical riders.

In traveling over the pleasant fields that have grown luxuriant crops in the last few years, we are often compelled to pause, and ask how such nonsensical stuff as sympathy ever retained its dominion over a well-informed mind, even for the space of a day. To those who love medical philosophy for its own sake, who delight to see truth springing up in its vigor and power, and who rejoice in the progress of medical science, we commend the subject of Generation, under the lucid pen of Cazeaux. We know of no more healthful recreation for a good mind than such reading.

It is difficult to single out points of excellence in a book like this, where all is of the highest quality, but we cannot refrain from impressing on the mind of our readers, on all suitable occasions, the admonitions contained in the following remarks of the American translator of this book He says: "The valuable experience derived from his [Cazeaux's] hospital practice, has clearly shown that the

unaided powers of nature are quite sufficient to effect the expulsion of the child, in a vast number of those cases which have heretofore been considered as absolutely requiring the intervention of art; and his detailed observations, in the fourth part, on the subject of difficult labors, will afford another, and, I trust, a convincing proof of the truth of the maxim, that MEDDLESOME MIDWIFERY IS BAD." In this salutary hope we cheerfully join. We have an inexpressible horror of the use of instruments in midwifery, and feel more than an ordinary share of thankfulness in the fact, that, in a long practice of the art, we have never yet been compelled to resort to instruments—thus far, it has been our good fortune to succeed by an unfaltering faith in the powers of nature. The lessons of Cazeaux are confirmatory of our own observations, and to those who are inexperienced in obstetrical art, we commend the author of this work as one of the safest guides in the use of instruments that can be found.

The original work of M. Cazeaux was published in France upwards of ten years ago, and such were its merits, that in 1841, it was adopted by the ROYAL COUNCIL OF PUBLIC INSTRUCTION. Since that time a second edition has been published in France, and this occasion was seized upon by the author to enlarge the work. It was remodelled throughout, so that the second edition contains one-third more matter than the original one, and has a large addition of plates, illustrating the mechanism of labor, and "of the varions phenomena exhibited by the human ovule in its successive transformations." The work may now be regarded as an authoritative exhibition of the principles of obstetrical science, as taught and practiced in France at this time.

The translator, Dr. R. P. Thomas, deserves credit for the labor he has bestowed on this American edition. He has performed his duties in a very creditable style, and is entitled to the thanks of those who do not read French,

for having enabled Cazeaux to address himself almost as well to American readers, as though the work had been written in the English language. We have met with but few translations that conveyed the spirit of the original with more complete success.

The publishers, too, have discharged their duties creditably. The illustrations are generally good, and the mechanical execution of the work is respectable.

We are indebted to Beckwith & Morton for our copy of this book.

Art. VIII.—*The Annual of Scientific Discovery; or Year Book of Facts in Science and Art*—Exhibiting the most important discoveries and improvements in mechanics, useful arts, natural philosophy, chemistry, astronomy, meteorology, zoology, botany, mineralogy, geology, geography, antiquities. Together with a list of recent scientific publications; a classified list of patents; obituaries of eminent scientific men; an index of important papers in scientific journals, reports, etc. Edited by David Wells, of the Lawrence Scientific School, Cambridge, and George Bliss, Jr.

We regret that this valuable work was not received in time for an extended notice in this number. It is a repository of knowledge, of the most useful character, and should command a very extensive patronage. Since we have seen it, we wonder that such a publication should not have been commenced years ago.

We have only space, now, sufficient to announce the publication of this valuable work, and to say that it presents the best dollar's worth of reading that we know of.

The work consists of 392 pages, and the publishers, Gould, Kendall and Lincoln, of Boston, proffer to send it, free of postage, to any one who remits them one dollar.

THE WESTERN JOURNAL.

THIRD SERIES.—VOL. V.—No. IV.

LOUISVILLE, APRIL 1, 1850.

POSTPONED ITEMS.

We regret that several editorial articles have been crowded out of this number. Among them are notices of Professor Bigelow's lecture, and Dr. Dowler's recent researches on the subject of death.

THE POSITION OF THE MEDICAL PROFESSION IN SOCIETY.

This is the subject of the introductory lecture of Prof. Paul F. Eve to his class at the opening of the last session of the Medical College of Georgia, and full justice has the able and experienced teacher done to his interesting subject. Prof. Eve points with as much feeling as judgment to the causes which have prevented the medical profession from attaining its merited position and influence in society. The argument of his lecture is excellent, and its spirit and aim are worthy of all praise. It may be long before medicine triumphs over all the evils that environ it, and takes its proper rank among the high callings of men, but every such effort as this of the great Georgia surgeon must hasten the day of its triumph

SANITARY REFORM.

The devastations of cholera in England have been useful, in turning the attention of men to the causes of disease, and to the means of removing them. We should be pleased to see a similar spirit of investigation and improvement aroused in this country, and we earnestly call the attention of our medical brethren to the subject. There are few objects on which they can more profitably spend their exertions, and there are none likely to be fraught with more useful results. The labors of the sanitary boards in England have shown a most frightful condition in the habitations of the poor, and in municipal regulations. In surveying this development, instead of feeling surprize at the extent of the ravages of typhus and typhoid fever, and of cholera, in particular localities, we are only surprised that any one, in the infected districts, should have survived. But while contemplating the baleful influences that ravage the lives of men, there is consolation in the fact, that preventive services can be efficiently rendered. These are the services which humanity has a right to demand of physicians, and to the honor of our profession, it should be said that its members have shown themselves ready at all times to remove the causes of disease.

The Edinburgh Review, for January, 1850, says: "In England alone, the average annual number of deaths from disease is, in round numbers, 300,000,—while that of deaths from the mere decay and exhaustion of the human frame, by the progress of time, is only 35,000. In the difference between these two numbers we see the vast and vital field in which the sanitary reformer proposes to work. That disease shall ever be entirely exterminated, is of course beyond the belief or hope of the most sanguine: but every disease has somewhere its specific and efficient cause—and that these causes can be removed, or much weakened in their action, in very many instances, is not only within the bounds of hope, but has been satisfactorily proved."

In reference to sanitary improvements, in vogue at present, the Edinburgh Review says:

"Their object is not the vain one of indefinitely protracting existence by human art. It seems, indeed, a remarkable fact, whence something has yet, we think, to be learned, that wherever the average length of life is improved, there is a tendency to equality; and that the miraculously long livers appear chiefly where the average vitality is shortest, and where men subject to noxious agencies present in general the most at

tenuated and degraded physical condition,—as if it were an exceptional law of nature, that those whose frames can, for a certain time, resist these deadly influences, become, 'like him who fed on poisons,' hardened against the common causes of mortality. Nor, were we to suppose it in the power of art materially to enlarge the allotted span of healthy existence, and to make extreme old age the common lot, instead of the rare privilage of a few,—must we necessarily suppose the boon accompanied by a great increase of human happiness. Treatises *de senectute* have more than one aspect. In the general case, when a green old age has been reached, the task of life may be considered to have been performed, and its enjoyments substantially exhausted; the journey has been completed, and the tired body may part with the spirit in peace, leaving the arena of life to new competitors, The associations with which survivors surround the memory of their aged relatives are accordingly more tender than bitter. And such deaths, it is felt, do not so much make a chasm in existence as a natural change, consonant with the decay and reproduction which are the routine of the world's progress. Young hands are strengthening their grasp to lead us forward in our journey through life, as the elder race waxes feeble and drops away. It is when the opening bud is blighted, or life is cut off in the full bloom of usefulness,—in the midst of happiness, affection, and esteem,—that the great calamities of mortality are exhibited. Such are the desolate spots of human existence, standing in the centre of its healthy fruition, waste and arid—showing happy aims defeated, and its joys engulphed in unfathomable sorrows. The science that promises in some measure to mitigate the horrors of this howling wilderness, is surely an object before which sarcasm and faction and selfishness may well be dumb."

These are certainly high and ennobling considerations, and if they are not worthy the attention of medical men, we should be at a loss to imagine anything that can be.

A national association of physicians has been formed in this country, which bids fair to be productive of a large amount of good. At the last meeting of this association, a large amount of information on sanitary subjects was gathered, and we hope that there will be an annual increase of valuable knowledge on these important points.